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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2018

OR

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

For the transition period from _____ to _____

Commission file number: 001-36327

Aquinox Pharmaceuticals, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**98-0542593**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

450-887 Great Northern Way,
Vancouver, B.C., Canada V5T 4T5
(Address of principal executive offices, including zip code)

Registrant's telephone number, including area code: (604) 629-9223

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

Title of class	**Name of each exchange on which registered**
Common Stock, par value $0.000001	**The Nasdaq Stock Market LLC**

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

None

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

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

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

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

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

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

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

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

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant was approximately $33.2 million as of the last business day of the registrant's most recently completed second fiscal quarter, based upon the closing sale price on The Nasdaq Global Market reported for such date. Excludes an aggregate of 11,010,240 shares of the registrant's common stock held as of such date by officers, directors and stockholders that the registrant has concluded are or were affiliates of the registrant. Exclusion of such shares should not be construed to indicate that the holder of any such shares possesses the power, direct or indirect, to direct or cause the direction of the management or policies of the registrant or that such person is controlled by or under common control with the registrant.

There were 23,537,368 shares of the registrant's Common Stock issued and outstanding as of March 7, 2019.

DOCUMENTS INCORPORATED BY REFERENCE

Part III incorporates information by reference from the registrant's definitive proxy statement to be filed with the Securities and Exchange Commission pursuant to Regulation 14A, not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K, in connection with the registrant's 2019 Annual Meeting of Stockholders (the "***2019 Proxy Statement***").

AQUINOX PHARMACEUTICALS, INC.

ANNUAL REPORT ON FORM 10-K
FOR THE YEAR ENDED DECEMBER 31, 2018

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Except as otherwise indicated herein or as the context otherwise requires, references in this report to "Aquinox," "the company," "we," "us," "our" and similar references refer to Aquinox Pharmaceuticals, Inc., a Delaware corporation, which we refer to in this report as Aquinox USA, and Aquinox Pharmaceuticals (Canada) Inc., a corporation under the Canada Business Corporations Act and a wholly owned subsidiary of Aquinox USA, which we refer to in this report as AQXP Canada. This report contains registered marks, trademarks and trade names of other companies. All other trademarks, registered marks and trade names appearing in this report are the property of their respective holders.

PART I

This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements are based on our management's beliefs and assumptions and on information currently available to our management. All statements other than statements of historical facts are "forward-looking statements" for purposes of these provisions, including those relating to future events or our future financial performance. In some cases, you can identify forward-looking statements by terminology such as "may," "might," "will," "should," "expect," "plan," "anticipate," "project," "believe," "estimate," "predict," "potential," "intend" or "continue," the negative of terms like these or other comparable terminology, and other words or terms of similar meaning in connection with any discussion of future operating or financial performance. These statements are only predictions. All forward-looking statements included in this Annual Report on Form 10-K are based on information available to us on the date hereof, and we assume no obligation to update any such forward-looking statements. Any or all of our forward-looking statements in this document may turn out to be wrong. Actual events or results may differ materially. Our forward-looking statements can be affected by inaccurate assumptions we might make or by known or unknown risks, uncertainties and other factors. We discuss many of these risks, uncertainties and other factors in this Annual Report on Form 10-K in greater detail under the heading "Item 1A — Risk Factors." We caution investors that our business and financial performance are subject to substantial risks and uncertainties.

Item 1. Business.

Overview

We are a pharmaceutical company discovering and developing novel therapeutics for conditions marked by inflammation, inflammatory pain and blood cancers. We commenced operations in Canada in December 2003. Aquinox Pharmaceuticals (Canada) Inc., a corporation formed under the Canada Business Corporations Act, is a wholly owned subsidiary of Aquinox Pharmaceuticals, Inc., a Delaware corporation formed in May 2007. We operate in Vancouver, British Columbia, Canada.

On June 27, 2018, we announced that our Phase 3 Leadership 301 clinical trial evaluating once-daily, oral rosiptor for the treatment of interstitial cystitis/bladder pain syndrome (IC/BPS) failed to meet its primary endpoint. As a result, in July 2018, our Board of Directors approved a restructuring plan to reduce operating costs and to better align our workforce with the needs of our business going forward. All further development activities with rosiptor were halted. On November 6, 2018, our Board of Directors approved a second restructuring plan to further reduce operating costs. After the completion of both restructuring plans, we have reduced our workforce from 56 to eight employees. As of the date of this report, we do not have any product candidates in clinical development or identified for clinical development. In order for our business to continue, we must identify products or product candidates that we can advance into development. In connection with this, we and our Board of Directors are evaluating potential merger transactions with companies that have more advanced development and product candidates. We are also evaluating the potential in-license or direct acquisition of potential products and/or product candidates as well as assessing whether any of our existing research stage compounds can be advanced into clinical development. If we are unable to identify products or additional product candidates, through merger, license or otherwise, that we and our Board of Directors determine would merit the investment of our capital and resources, our Board of Directors may pursue other options, which would potentially include a return of capital to our stockholders and the dissolution of our business.

Research and Development

Since commencing operations, we have dedicated a significant portion of our resources to the development of product candidates, particularly rosiptor. As a result of the failure of our Leadership 301 clinical trial, all our research and development activities have been suspended and there is no material research and development spending planned while strategic alternatives are being considered.

Intellectual Property

We strive to protect our intellectual property through a combination of patent, copyright, trademark and trade secrets laws, as well as through confidentiality provisions in our contracts. Our patenting strategy has been to pursue patent protection covering both compositions of matter and methods of use and seek to obtain additional patent protection throughout the development process on other aspects of our technology that would potentially enhance our competitive exclusivity and commercial success. We also rely on continuing technological innovation, know-how and trade secrets relating to our discovery platform and product candidates and seek to protect and maintain the confidentiality of proprietary information to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection.

Our patent estate on a worldwide basis includes approximately 55 issued, allowed or granted patents and approximately 53 pending patent applications that we are actively prosecuting and/or maintaining. These figures include patents and patent applications to which we hold exclusive commercial rights under our licenses from third parties, and issued patents to which we solely owned (thirteen U.S. patents and 35 foreign patents) and patent applications to which we solely owned (four U.S. applications and 49 foreign patent applications). Estimated expiry dates for these patents (issued, allowed, granted or pending) ranged from 2022 to 2037.

Although we take steps to protect our proprietary information and trade secrets, third parties may independently develop substantially equivalent proprietary information or otherwise gain access to, or disclose, our trade secrets. To the extent that our employees, consultants, scientific advisors, contractors, or any future collaborators use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions. For this and more comprehensive risks related to our proprietary technology and processes, please see the section of this Annual Report captioned “Risk Factors — Risks Related to Intellectual Property.”

Contractual Obligations Related to Intellectual Property

In August 2009, AQXP Canada entered into an asset purchase agreement with Biolipox AB of Sweden, or Biolipox, for the purchase of all assets, including patent rights and know-how, relating exclusively or principally to a compound library from which we ultimately identified and selected rosiptor. Under the terms of the agreement, AQXP Canada paid Biolipox CAD $50,000 immediately upon closing. An additional CAD $250,000 payment by way of issuance of 19,762 shares of our common stock was made in June 2014 upon the first submission to the FDA of an IND for a compound from the acquired class. In November 2016 we made a one-time CAD $3.0 million milestone payment as a result of the advancement of rosiptor into a Phase 3 clinical trial. We will also be required to make certain other milestone payments totaling up to CAD $1.5 million in the aggregate upon the first commercial sale of the first compound covered by the acquired patent rights (which we expect will be triggered by the first commercial sale of rosiptor) in each of the United States, Europe and Japan.

In June 2006, AQXP Canada entered into an exclusive license agreement with the University of British Columbia, or UBC, for certain patent rights and technology relating to small molecule compounds and pharmaceutical compositions as modulators of SHIP1 activity. This agreement was amended and restated in June 2007, and subsequently amended in October 2006, June 2007, September 2008 and April 2010. This agreement will expire on the expiry of the last issued patent covering the licensed technology. The agreement will terminate automatically upon our insolvency or may be terminated by either party for material breach by the other party. The terms of the agreement required AQXP Canada to pay an initial license fee of CAD $50,000, all of which was paid by the issuance of shares of our common stock. We do not currently have any product candidates under development that are covered by the agreement, nor have we sublicensed our rights under the licensed patents. However, if we develop products covered by the UBC technology in the future, we will be required to pay certain development and regulatory milestones up to an aggregate of CAD $2.2 million for the first drug product developed under the license and up to CAD $1.5 million for each subsequent drug product, which may be paid in cash or by issue of our shares. We must also pay UBC low single-digit royalties based on aggregate worldwide

net sales of products covered by the licensed patents and a percentage of sublicensing revenue ranging from the low single digits to the mid double digits based on the stage of development at which such sublicense is granted. We are also required to reimburse costs incurred by UBC related to the prosecution and maintenance of the licensed patents, and to pay an annual license maintenance fee in the amount of CAD $1,000.

In May 2005, AQXP Canada entered into an assignment agreement, which was subsequently amended in December 2005 and March 2006, with the British Columbia Cancer Agency ("BCCA") and StemCell Technologies, Inc. ("STI"), for the assignment to AQXP Canada of the 2002 exclusive license agreement between BCCA and STI to certain patents relating to technology relating to SHIP1. The license agreement between AQXP Canada and BCCA was amended and restated in August 2006 and in June 2007. This agreement has subsequently been amended in June 2008 to revise the schedule of the technology licensed under this agreement, and further amended in February 2013. Pursuant to this agreement, as amended, BCCA has granted us an exclusive worldwide license to certain of its intellectual property relating to core SHIP1 technology, and screening of compounds for activity using SHIP1, including the C2 binding domain. The agreement is to expire at the later of 20 years from the effective date of the agreement or upon the expiration of the last patent covered by the license. The terms of the assignment agreement among STI, BCCA and AQXP Canada required AQXP Canada to pay an assignment license fee of CAD $150,000 paid in stages beginning May 2005 and ending March 2006. We do not currently have any product candidates under development that are covered by the BCCA license agreement, nor have we sublicensed our rights under the licensed patents. However, if we develop products covered by the BCCA technology in the future, we will be required to pay BCCA low single-digit royalties based on aggregate worldwide net sales of products covered by the licensed patents, and if we sublicense any rights to the technology, a low double digit percentage of sublicensing revenue. We are also required to reimburse BCCA's patent costs incurred in relation to the licensed technology, and pay an annual maintenance fee in the amount of CAD $5,000. Our license with BCCA will terminate automatically upon our insolvency, and may be terminated by either party for material breach by the other party.

General Considerations

As with other biotechnology and pharmaceutical companies, our ability to maintain and solidify a proprietary position for our product candidates will depend upon our success in obtaining effective patent claims and enforcing those claims once granted.

Our commercial success will depend in part upon not infringing upon the proprietary rights of third parties. It is uncertain whether the issuance of any third-party patent would require us to alter our development or commercial strategies, or our product candidates or processes, obtain licenses or cease certain activities. The biotechnology and pharmaceutical industries are characterized by extensive litigation regarding patents and other intellectual property rights. If a third party commences a patent infringement action against us, or our future collaborators, it could consume significant financial and management resources, regardless of the merit of the claims or the outcome of the litigation.

Manufacturing

We conduct manufacturing activities for our product candidates under individual purchase orders with third-party contract manufacturing organizations (CMOs) as we currently have no manufacturing facilities and do not intend to develop one. We have in place quality agreements with our key CMOs.

The FDA and other health authorities worldwide regulate and inspect equipment, facilities and processes used in manufacturing pharmaceutical products prior to approval. If we fail to comply with applicable cGMP requirements and conditions of product approval, the FDA may seek sanctions, including fines, civil penalties, injunctions, suspension of manufacturing operations, operating restrictions, withdrawal of FDA approval, seizure or recall of products and criminal prosecution. Although we periodically monitor the FDA compliance of our third-party CMOs, we cannot be certain that our present or future third-party CMOs will consistently comply with cGMP and other applicable FDA regulatory requirements.

Commercial Operations

We do not currently have an organization for the sales, marketing and distribution of pharmaceutical products. We may rely on licensing and co-promotion agreements with strategic partners for the commercialization of our products in the United States and other territories. If we choose to build a commercial infrastructure to support marketing in the United States and Canada, such commercial infrastructure could be expected to include a targeted sales force supported by sales management, internal sales support, an internal marketing group and distribution support. To develop the appropriate commercial infrastructure internally, we would have to invest significant financial and management resources.

Government Regulation

As a pharmaceutical company that operates and anticipates seeking approval for pharmaceutical product candidates in the United States, we are subject to extensive regulation by the U.S. Food and Drug Administration, or FDA, and other federal, state, and local regulatory agencies. The Federal Food, Drug, and Cosmetic Act, or the FDC Act, and its implementing regulations set forth, among other things, requirements for the research, testing, development, manufacture, quality control, safety, effectiveness, approval, labeling, storage, record keeping, reporting, distribution, import, export, advertising and promotion of our products. Our pharmaceutical product candidates must be approved by the FDA before we can commence clinical trials or market those products in the United States.

Although the discussion below focuses on regulation in the United States, we conduct research activities and anticipate seeking approval for, and marketing of, our products in other countries and regions, such as Canada and Europe. Generally, our activities in other countries will be subject to regulation that is similar in nature and scope as that imposed in the United States, although there can be important differences. Additionally, some significant aspects of regulation in Europe are addressed in a centralized way through the EMA, but country-specific regulation remains essential in many respects. The process of obtaining regulatory marketing approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources.

FDA Regulation

The FDA is the main regulatory body that controls pharmaceuticals in the United States, and its regulatory authority is based in the FDC Act. Pharmaceutical products are also subject to other federal, state and local statutes. A failure to comply with any requirements during the product development, approval, or post-approval periods, may lead to administrative or judicial sanctions. These sanctions could include the imposition by the FDA or an institutional review board, or IRB, of a hold on clinical trials, refusal to approve pending marketing applications or supplements, withdrawal of approval, warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, civil penalties or criminal prosecution.

The steps required before a new drug may be marketed in the United States generally include:

- completion of preclinical laboratory tests, animal studies and formulation studies in compliance with the FDA's Good Laboratory Practices regulations;
- submission to the FDA of an IND, which must become effective before human clinical trials may begin;
- approval by an IRB at each clinical site before each trial may be initiated;
- performance of adequate and well-controlled clinical trials in accordance with federal regulations and with current good clinical practices, or GCPs, to establish the safety and efficacy of the investigational drug product for each targeted indication;
- submission of New Drug Application, or NDA, to the FDA;

- satisfactory completion of an FDA Advisory Committee review, if applicable;
- satisfactory completion of an FDA inspection of the manufacturing facilities at which the investigational product is produced to assess compliance with cGMP, and to assure that the facilities, methods and controls are adequate; and
- FDA review and approval of the NDA.

Clinical Trials

An IND is a request for authorization from the FDA to administer an investigational drug product to humans. This authorization is required before interstate shipping and administration of any new drug product to humans that is not the subject of an approved NDA. A 30-day waiting period after the submission of each IND is required prior to the commencement of clinical testing in humans. If the FDA has neither commented on nor questioned the IND within this 30-day period, the clinical trial proposed in the IND may begin. Clinical trials involve the administration of the investigational drug to patients under the supervision of qualified investigators following GCPs, an international standard meant to protect the rights and health of patients and to define the roles of clinical trial sponsors, administrators and monitors. Clinical trials are conducted under protocols that detail the parameters to be used in monitoring safety, and the efficacy criteria to be evaluated. Each protocol involving testing on U.S. patients and subsequent protocol amendments must be submitted to the FDA as part of the IND. The informed written consent of each participating subject is required. The clinical investigation of an investigational drug is generally divided into three phases. Although the phases are usually conducted sequentially, they may overlap or be combined. The three phases of an investigation are generally described as follows:

- *Phase 1* — Phase 1 includes the initial introduction of an investigational drug into humans. Phase 1 clinical trials may be conducted in patients with the target disease or condition or healthy volunteers. These trials are designed to evaluate the safety, metabolism, pharmacokinetics and pharmacologic actions of the investigational drug in humans, the side effects associated with increasing doses, and if possible, to gain early evidence on effectiveness. During Phase 1 clinical trials, sufficient information about the investigational product's pharmacokinetics and pharmacological effects may be obtained to permit the design of Phase 2 clinical trials.
- *Phase 2* — Phase 2 includes controlled clinical trials conducted to evaluate the effectiveness of the investigational product for a particular indication(s) in patients with the disease or condition under study, to determine dosage tolerance and optimal dosage, and to identify possible adverse side effects and safety risks associated with the drug. Phase 2 clinical trials are typically well-controlled, closely monitored, and conducted in a limited patient population.
- *Phase 3* — Phase 3 clinical trials are controlled clinical trials conducted in an expanded patient population at geographically dispersed clinical trial sites. They are performed after preliminary evidence suggesting effectiveness of the investigational product has been obtained, and are intended to further evaluate dosage, clinical effectiveness and safety, to establish the overall benefit-risk relationship of the product, and to provide an adequate basis for product approval. In most cases, the FDA requires two adequate and well-controlled Phase 3 clinical trials to demonstrate the efficacy of the drug. A single Phase 3 trial with other confirmatory evidence may be sufficient in rare instances where the trial is a large multicenter trial demonstrating internal consistency and a statistically very persuasive finding of a clinically meaningful effect on mortality, irreversible morbidity or prevention of a disease with a potentially serious outcome and confirmation of the result in a second trial would be practically or ethically impossible.

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA and safety reports must be submitted to the FDA and the investigators for serious and unexpected adverse events. Phase 1, Phase 2 and Phase 3 testing may not be completed successfully within any specified period, if at all. The

decision to terminate development of an investigational drug product may be made by either a health authority body, such as the FDA, or by a company for various reasons. The FDA may order the temporary, or permanent, discontinuation of a clinical trial at any time, or impose other sanctions, if it believes that the clinical trial either is not being conducted in accordance with FDA requirements or presents an unacceptable risk to the clinical trial patients. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients. In some cases, clinical trials are overseen by an independent group of qualified experts organized by the trial sponsor, for example, the data safety monitoring board (DSMB). This group provides authorization for whether or not a trial may move forward at designated check points. These decisions are based on the limited access to data from the ongoing trial. The suspension or termination of development can occur during any phase of clinical trials if it is determined that the participants or patients are being exposed to an unacceptable health risk. In addition, there are requirements for the registration of ongoing clinical trials of drugs on public registries and the disclosure of certain information pertaining to the trials as well as clinical trial results after completion.

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

Assuming successful completion of all required testing in accordance with all applicable regulatory requirements, detailed investigational drug product information is submitted to the FDA in the form of an NDA to request market approval for the product in specified indications.

New Drug Applications

In order to obtain approval to market a drug in the United States, a marketing application must be submitted to the FDA that provides data establishing the safety and effectiveness of the drug product for the proposed indication. The application includes all relevant data available from pertinent preclinical studies and clinical trials, including negative or ambiguous results as well as positive findings, together with detailed information relating to the product's chemistry, manufacturing, controls and proposed labeling, among other things. Data can come from company-sponsored clinical trials intended to test the safety and effectiveness of a product, or from a number of alternative sources, including studies initiated by investigators. To support marketing approval, the data submitted must be sufficient in quality and quantity to establish the safety and effectiveness of the investigational drug product to the satisfaction of the FDA.

In most cases, the NDA must be accompanied by a substantial user fee; there may be some instances in which the user fee is waived. The FDA will initially review the NDA for completeness before it accepts the NDA for filing. The FDA has 60 days from its receipt of an NDA to determine whether the application will be accepted for filing based on the agency's threshold determination that it is sufficiently complete to permit substantive review. After the NDA submission is accepted for filing, the FDA begins an in-depth review. The FDA has agreed to certain performance goals in the review of NDAs. Most such applications for standard review drug products are reviewed within ten to 12 months of submission. The FDA can extend this review by three months to consider certain late-submitted information or information intended to clarify information already provided in the submission. The FDA does not always achieve its performance goal and its review of NDAs can take significantly longer. The FDA reviews the NDA to determine, among other things, whether the proposed product is safe and effective for its intended use, and whether the product is being manufactured in accordance with cGMP. The FDA may refer applications for novel drug products which present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review,

evaluation and a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Before approving an NDA, the FDA will inspect the facilities at which the product is manufactured. The FDA will not approve the product unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving an NDA, the FDA will typically inspect the sponsor and one or more clinical sites to assure compliance with GCP. After the FDA evaluates the NDA and the manufacturing facilities, it issues either an approval letter or a complete response letter. A complete response letter generally outlines the deficiencies in the submission and may require substantial additional testing, time or information in order for the FDA to reconsider the application. If, or when, those deficiencies have been addressed to the FDA's satisfaction in a resubmission of the NDA, the FDA will issue an approval letter. The FDA has committed to reviewing such resubmissions in two or six months depending on the type of information included. The approval process is lengthy and difficult and notwithstanding the submission of any requested additional information, the FDA ultimately may refuse to approve an NDA if applicable regulatory criteria are not satisfied or if the FDA believes additional clinical data or other data and information are required. Data obtained from clinical trials are not always conclusive and the FDA may interpret data differently than a company interprets the same data.

An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications. FDA's approval of a product may be significantly limited to specific disease and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product. Further, the FDA may require that certain contraindications, warnings, or precautions be included in the product labeling. In addition, as a condition of NDA approval, the FDA may require a risk evaluation and mitigation strategy, or REMS, to help ensure that the benefits of the drug outweigh the potential risks. REMS can include medication guides, communication plans for healthcare professionals, special training or certification for prescribing or dispensing, dispensing only under certain circumstances, restricted distribution, special monitoring, and the use of patient registries. The requirement for REMS can materially affect the potential market and profitability of the drug. Moreover, product approval may require substantial post-approval testing and surveillance to monitor the drug's safety or efficacy. Once granted, product approvals may be withdrawn if compliance with regulatory standards is not maintained or problems are identified following initial marketing.

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

Advertising and Promotion

The FDA and other federal regulatory agencies closely regulate the marketing and promotion of drugs through, among other things, standards and regulations for direct-to-consumer advertising, communications regarding unapproved uses, industry-sponsored scientific and educational activities, and promotional activities involving the Internet. A product cannot be commercially promoted before it is approved. After approval, product promotion can include only those claims relating to safety and effectiveness that are consistent with the labeling approved by the FDA. Healthcare providers are permitted to prescribe drugs for "off-label" uses — that is, uses not approved by the FDA and therefore not described in the drug's labeling — because the FDA does not regulate the practice of medicine. However, FDA regulations impose stringent restrictions on manufacturers' communications regarding off-label uses. Broadly speaking, a manufacturer may not promote a drug for off-label use, but may engage in non-promotional, balanced communication regarding off-label use under specified conditions. Failure to comply with applicable FDA requirements and restrictions in this area may subject a company to adverse publicity and enforcement action by the FDA, the U.S. Department of Justice (DOJ), or the

Office of the Inspector General of HHS, as well as state authorities. This could subject a company to a range of penalties that could have a significant commercial impact, including civil and criminal fines and agreements that materially restrict the manner in which a company promotes or distributes drug products.

Post-Approval Regulations

After regulatory approval of a drug is obtained, a company is required to comply with a number of post-approval requirements. For example, as a condition of approval of an NDA, the FDA may require post-marketing testing, including Phase 4 clinical trials, and surveillance to further assess and monitor the product's safety and effectiveness after commercialization. In addition, as a holder of an approved NDA, a company would be required to report adverse reactions and production problems to the FDA, to provide updated safety and efficacy information, and to comply with requirements concerning advertising and promotional labeling for any of its products. Also, quality control and manufacturing procedures must continue to conform to cGMP after approval to assure and preserve the long term stability of the drug or biological product. The cGMP requirements apply to all stages of the manufacturing process, including the production, processing, sterilization, packaging, labeling, storage and shipment of the drug product. The FDA periodically inspects manufacturing facilities to assess compliance with cGMP, which imposes extensive procedural and substantive record keeping requirements. In addition, changes to the manufacturing process are strictly regulated, and, depending on the significance of the change, may require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting and documentation requirements upon a company and any third-party manufacturers that a company may decide to use. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain compliance with cGMP and other aspects of regulatory compliance.

We rely, and expect to continue to rely, on third parties for the production of clinical and commercial quantities of our product candidates. Future FDA and state inspections may identify compliance issues at our facilities or at the facilities of our contract manufacturers that may disrupt production or distribution, or require substantial resources to correct.

The FDA may withdraw a product approval if compliance with regulatory standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product or the failure to comply with applicable requirements may result in restrictions on a product, manufacturer or holder of an approved NDA, including withdrawal or recall of the product from the market or other voluntary, FDA-initiated or judicial action that could delay or prohibit further marketing. Further, the failure to maintain compliance with regulatory requirements may result in administrative or judicial actions, such as fines, warning letters, holds on clinical trials, product recalls or seizures, product detention or refusal to permit the import or export of products, refusal to approve pending applications or supplements, restrictions on marketing or manufacturing, injunctions or civil or criminal penalties.

Newly discovered or developed safety or effectiveness data may require changes to a product's approved labeling, including the addition of new warnings and contraindications, and also may require the implementation of other risk management measures. Also, new government requirements, including those resulting from new legislation, may be established, or the FDA's policies may change, which could delay or prevent regulatory approval of our products under development.

Compliance

During all phases of development (pre- and post-marketing), failure to comply with applicable regulatory requirements may result in administrative or judicial sanctions. These sanctions could include the FDA's imposition of a clinical hold on trials, refusal to approve pending applications, withdrawal of an approval, warning letters, product recalls, product seizures, total or partial suspension of production or distribution, product detention or refusal to permit the import or export of products, injunctions, fines, civil penalties or criminal prosecution. Any agency or judicial enforcement action could have a material adverse effect on us.

Comparable European, Canadian and Other International Government Regulation

In addition to FDA regulations in the United States, we will be subject to a variety of comparable regulations in other jurisdictions governing, among other things, clinical trials and any commercial sales and distribution of our products. Whether or not we obtain FDA approval for a product, we must obtain the requisite approvals from regulatory authorities in foreign countries prior to the commencement of clinical trials or marketing of the product in those countries.

Some countries outside of the United States have a similar process that requires the submission of a clinical trial application, or CTA, much like the IND prior to the commencement of human clinical trials. In Europe, for example, a CTA must be submitted to each country's national health authority and an independent ethics committee, much like the FDA and IRB, respectively. Once the CTA is approved in accordance with a country's requirements, clinical trial development may proceed. To obtain regulatory approval to commercialize a new drug under European Union regulatory systems, we must submit a marketing authorization application, or MAA. The MAA is similar to the NDA, with the exception of, among other things, country-specific document requirements and environmental impact assessments.

In Canada, biopharmaceutical product candidates are regulated by the Food and Drugs Act and the rules and regulations promulgated thereunder, which are enforced by the Therapeutic Products Directorate of Health Canada, or TPD. Before commencing clinical trials in Canada, an applicant must complete preclinical studies and file a CTA with the TPD. After filing a CTA, the applicant must receive different clearance authorizations to proceed with Phase 1 clinical trials, which can then lead to Phase 2 and Phase 3 clinical trials. To obtain regulatory approval to commercialize a new drug in Canada, a new drug submission, or NDS, must be filed with the TPD. If the NDS demonstrates that the product was developed in accordance with the regulatory authorities' rules, regulations and guidelines and demonstrates favorable safety and efficacy and receives a favorable risk/benefit analysis, the TPD issues a notice of compliance which allows the applicant to market the product.

For other countries outside of the European Union and Canada, such as countries in Eastern Europe, Latin America or Asia, the requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary from country to country. In all cases, again, the clinical trials are conducted in accordance with GCP and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki.

Other Healthcare Laws and Compliance Requirements

In the United States, our activities are potentially subject to additional regulation and oversight under other healthcare laws by various federal, state and local authorities in addition to the FDA, including the Centers for Medicare & Medicaid Services, or CMS, other divisions of the United States Department of Health and Human Services (e.g., the Office of Inspector General), the DOJ, and individual U.S. Attorney offices within the DOJ, and state and local governments. These laws include the federal Anti-Kickback Statute, which prohibits, among other things, any person or entity, from knowingly and willfully offering, paying, soliciting or receiving any remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce or in return for either the referral of an individual, or purchasing, leasing, ordering or arranging for the purchase, lease or order of any good, facility, item or service reimbursable, in whole or part, under Medicare, Medicaid or another federal healthcare program. The term remuneration has been interpreted broadly to include anything of value. The federal Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on one hand and prescribers, purchasers, and formulary managers on the other. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution. The exceptions and safe harbors are drawn narrowly and practices that involve remuneration that may be alleged to be intended to induce prescribing, purchasing or recommending may be subject to scrutiny if they do not qualify for an exception or safe harbor. Our practices may not in all cases meet all of the criteria for protection under a statutory exception or regulatory safe harbor from federal Anti-Kickback Statute liability. Failure to meet

all of the requirements of a particular applicable statutory exception or regulatory safe harbor, however, does not make the conduct per se illegal under the Anti-Kickback Statute. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all of its facts and circumstances. In addition, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively, the Affordable Care Act, further strengthened these laws by amending the intent standard under the federal Anti-Kickback Statute and the criminal health care fraud statutes (discussed below), such that a person or entity no longer needs to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. In addition, the Affordable Care Act codified case law that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act (discussed below).

Federal civil and criminal false claims laws, including the False Claims Act, and civil monetary penalties laws prohibit, among other things, any person or entity from knowingly presenting, or causing to be presented, a false claim for payment to, or approval by, the federal government, including the Medicare and Medicaid programs, or knowingly making, using, or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government, including the Medicare and Medicaid programs. As a result of a modification made by the Fraud Enforcement and Recovery Act of 2009, a claim includes "any request or demand" for money or property presented to the U.S. government. Recently, several pharmaceutical and other healthcare companies have been prosecuted under these laws for allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. Other companies have been prosecuted for causing false claims to be submitted because of the companies' marketing of the product for off-label, and thus, non-covered, uses.

The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, created additional federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud or to obtain, by means of false or fraudulent pretenses, representations or promises, any money or property owned by, or under the control or custody of, any healthcare benefit program, including private third-party payors and knowingly and willfully falsifying, concealing or covering up by trick, scheme or device, a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. Also, many states have similar fraud and abuse statutes or regulations that apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payor.

We may also be subject to data privacy and security regulation by both the federal government and the states in which we conduct our business. HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH, and its implementing regulations, imposes requirements relating to the privacy, security and transmission of individually identifiable health information. Among other things, HITECH makes certain HIPAA standards directly applicable to business associates — independent contractors or agents of covered entities that receive or obtain protected health information in connection with providing a service on behalf of a covered entity. HITECH also created four new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorney's fees and costs associated with pursuing federal civil actions. In addition, state laws govern the privacy and security of health information in specified circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

Additionally, the federal Physician Payments Sunshine Act within the Affordable Care Act, and its implementing regulations, require that certain manufacturers of drugs, devices, biological and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) report annually to CMS information related to certain payments or other transfers of value made or distributed to physicians and teaching hospitals, or to entities or individuals at the request of, or designated on behalf of, the physicians and teaching hospitals, and applicable manufacturers and group purchasing

organizations to report annually certain ownership and investment interests held by physicians and their immediate family members and payments or other "transfers of value" to such physician owners and their immediate family members.

In order to distribute products commercially, we must comply with state laws that require the registration of manufacturers and wholesale distributors of pharmaceutical products in a state, including, in some states, manufacturers and distributors who ship products into the state even if such manufacturers or distributors have no place of business within the state. Some states also impose requirements on manufacturers and distributors to establish the pedigree of product in the chain of distribution, including some states that require manufacturers and others to adopt new technology capable of tracking and tracing product as it moves through the distribution chain. Several local, state and foreign governments have enacted legislation requiring pharmaceutical companies to, among other things, establish compliance programs, file periodic reports with the state or foreign government, make periodic public disclosures on sales, marketing, pricing, clinical trials and other activities, and/ or register their sales representatives, as well as to prohibit pharmacies and other healthcare entities from providing specified physician prescribing data to pharmaceutical companies for use in sales and marketing, and to prohibit other specified sales and marketing practices. In addition, our future commercial activities may also be subject to federal and state consumer protection and unfair competition laws.

If our operations are found to be in violation of any of the federal and state healthcare laws described above or any other governmental regulations that apply to us, we may be subject to penalties, including without limitation, civil, criminal and administrative penalties, damages, fines, disgorgement, individual imprisonment, exclusion from participation in government programs, such as Medicaid and Medicare, integrity obligations, injunctions, as well as reputational harm, administrative burdens, diminished profits and future earnings and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations. To the extent that any of our products are sold in a foreign country, we may be subject to similar foreign laws and regulations, which may include, for instance, anti-fraud and abuse laws, and implementation of corporate compliance programs and reporting of payments or transfers of value to healthcare professionals.

Coverage, Reimbursement and Pricing

Significant uncertainty exists as to the coverage and reimbursement status of any drug products for which we obtain regulatory approval. In the United States and markets in other countries, sales of any products for which we receive regulatory approval for commercial sale will depend, in part, on the extent that third-party payors provide coverage, and establish adequate reimbursement levels for such drug products. In the United States, third-party payors include federal healthcare programs, state healthcare programs, managed care providers, private health insurers and other organizations. The process for determining whether a third-party payor will provide coverage for a drug product may be separate from the process for setting the price of a drug product or for establishing the reimbursement rate that such a payor will pay for the drug product. Third-party payors may limit coverage to specific drug products on an approved list, also known as a formulary, which might not include all of the FDA-approved drugs for a particular indication. Third-party payors are increasingly challenging the price, examining the medical necessity and reviewing the cost-effectiveness of drug products and medical services, in addition to questioning their safety and efficacy. We may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of our products, in addition to the costs required to obtain FDA approvals. Rosiptor or our future product candidates may not be considered medically necessary or cost-effective. A payor's decision to provide coverage for a drug product does not imply that an adequate reimbursement rate will be approved. Further, one payor's determination to provide coverage for a drug product does not assure that other payors will also provide coverage for the drug product. Adequate third-party reimbursement may not be available to enable us to maintain price levels sufficient to realize an appropriate return on our investment in product development. If a drug product is reimbursed under a governmental healthcare program, such as Medicare, Medicaid or TRICARE, additional laws and program requirements will apply.

Different pricing and reimbursement schemes exist in other countries. In the European Union, governments influence the price of pharmaceutical products through their pricing and reimbursement rules and control of national healthcare systems that fund a large part of the cost of those products to consumers. Some jurisdictions operate positive and negative list systems under which products may only be marketed once a reimbursement price has been agreed upon. To obtain reimbursement or pricing approval, some of these countries may require the completion of clinical trials that compare the cost-effectiveness of a particular product candidate to currently available therapies. Other member states allow companies to fix their own prices for drugs, but monitor and control company profits. The downward pressure on healthcare costs in general, particularly prescription drugs, has become more intense. As a result, increasingly high barriers are being erected to the entry of new products. The European Union provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. We may face competition for our product candidates from lower-priced products in foreign countries that have placed price controls on pharmaceutical products. In addition, in some countries, cross-border imports from low-priced markets exert a commercial pressure on pricing within a country.

The marketability of any products for which we receive regulatory approval for commercial sale may suffer if the government and third-party payors fail to provide adequate coverage and reimbursement. In addition, an increasing emphasis on managed care in the United States has increased and will continue to increase the pressure on pharmaceutical pricing. Coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which we receive regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

Healthcare Reform

In March 2010, President Obama signed the Affordable Care Act, which substantially changed healthcare financing and the delivery by both governmental and private insurers, and significantly impacted the pharmaceutical industry. The Affordable Care Act impacts existing government healthcare programs and requires the development of new programs. In addition, other legislative changes have been proposed and adopted since the Affordable Care Act was enacted. On August 2, 2011, the President signed into law the Budget Control Act of 2011, which, among other things, created the Joint Select Committee on Deficit Reduction to recommend proposals in spending reductions to Congress. The Joint Select Committee did not achieve its targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, triggering the legislation's automatic reductions to several government programs. These reductions include aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, which went into effect on April 1, 2013 and, due to subsequent legislative amendments, will stay in effect through 2025 unless additional Congressional action is taken. On January 2, 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other things, further reduced Medicare payments to several providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. Furthermore, there has been heightened governmental scrutiny recently over the manner in which manufacturers set prices for their marketed products.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of Affordable Care Act, as well as efforts by the Trump administration to repeal or replace certain aspects of the Affordable Care Act, or ACA. Since January 2017, President Trump has signed two executive orders and other directives designed to delay, circumvent, or loosen certain requirements mandated by the Affordable Care Act. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the ACA. While Congress has not passed repeal legislation, the Tax Cuts and Jobs Act of 2017 includes a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate". Congress may consider other legislation to repeal or replace elements of the ACA.

The potential impact of these efforts to repeal or defer and delay enforcement of Affordable Care Act on our business remains unclear. Congress also could consider subsequent legislation to replace elements of Affordable Care Act that are repealed. Because of the continued uncertainty about the implementation of the Affordable Care Act, including the potential for further legal challenges or repeal of Affordable Care Act, we cannot quantify or predict with any certainty the likely impact of the Affordable Care Act or its repeal on our business, prospects, financial condition or results of operations.

We cannot predict what healthcare reform initiatives may be adopted in the future. However, we anticipate that Congress, state legislatures, and third-party payors may continue to review and assess alternative healthcare delivery and payment systems and may in the future propose and adopt legislation or policy changes or implementations effecting additional fundamental changes in the healthcare delivery system. We also expect ongoing initiatives to increase pressure on drug pricing. Any reduction in reimbursement from Medicare and other government programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability, or commercialize our products. In addition, it is possible that there will be further legislation or regulation that could harm our business, financial condition, and results of operations.

Anti-Corruption Legislation

The Foreign Corrupt Practices Act, or FCPA, prohibits any U.S. individual or business from paying, offering, or authorizing payment or offering of anything of value, directly or indirectly, to any foreign official, political party or candidate for the purpose of influencing any act or decision of the foreign entity in order to assist the individual or business in obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the United States to comply with accounting provisions requiring us to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, and to devise and maintain an adequate system of internal accounting controls for international operations.

The Corruption of Foreign Public Officials Act, or CFPOA, prohibits Canadian businesses and individuals from giving or offering to give a benefit of any kind to a foreign public official, or any other person for the benefit of the foreign public official, where the ultimate purpose is to obtain or retain a business advantage. Under the CFPOA, companies may be liable for the actions of their employees or third-party agents, even if such persons operate outside of Canada.

Employees

As of December 31, 2018, we had eight employees. We have no collective bargaining agreements with our employees and have not experienced any work stoppages. We believe that relations with our employees are good.

Corporate Information

We commenced operations as 6175813 Canada Inc., a corporation formed in December 2003 under the Canada Business Corporations Act. In May 2014, after a corporate restructuring, we changed the name of such entity to Aquinox Pharmaceuticals (Canada) Inc. We incorporated Aquinox Pharmaceuticals (USA) Inc., a corporation under the laws of the State of Delaware, in May 2007. We subsequently changed the name of this corporation in January 2014 to Aquinox Pharmaceuticals, Inc. AQXP Canada is a wholly owned subsidiary of Aquinox USA. Our primary executive offices are located at 450-887 Great Northern Way, Vancouver, B.C., Canada V5T 4T5 and our telephone number is (604) 629-9223. Our website address is www.aqxpharma.com. The information contained in, or that can be accessed through, our website is not part of this Annual Report.

Item 1A. Risk Factors.

You should carefully consider the following risk factors, in addition to the other information contained in this Annual Report on Form 10-K and the information incorporated by reference herein. If any of the events described in the following risk factors occurs, our business, operating results and financial condition could be seriously harmed.

This Annual Report on Form 10-K also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of factors that are described below and elsewhere in this Annual Report on Form 10-K.

Risks Related to Our Business, Industry, Financial Position and Capital Needs

Our failure to successfully identify and/or acquire, through merger, license or otherwise, and then to develop and commercialize additional product candidates or approved products would prevent us from continuing our business.

Following the failure of our Phase 3 Leadership 301 clinical trial evaluating rosiptor for the treatment IC/BPS, we do not have any product candidates in clinical development or identified for clinical development. As all of the potential product candidates in our existing pipeline are in the discovery and preclinical study stages, we are evaluating strategic options. The primary strategic option we are evaluating is the acquisition, via merger, license or otherwise, of additional products and product candidates. Following our recent restructurings, we no longer have any internal research or development capabilities, and therefore in order for us to obtain additional product candidates we are dependent upon pharmaceutical and biotechnology companies, academic scientists and other researchers to sell or license products or technology to us, or to merge with us. We are also assessing whether any of our existing research stage compounds could be advanced into clinical development.

The success of this strategy depends partly upon our ability to identify, select and acquire promising pharmaceutical product candidates and products. The process of proposing, negotiating and implementing a license or acquisition, via merger or otherwise, of a product candidate or approved product is lengthy and complex. Other companies, including some with substantially greater financial, marketing and sales resources, may compete with us for the license or acquisition of product candidates and approved products. We have limited resources to identify and execute the acquisition or in-licensing of third-party products, businesses and technologies and integrate them into our current infrastructure. Moreover, we may devote resources to potential mergers, acquisitions or in-licensing opportunities that are never completed, or we may fail to realize the anticipated benefits of such efforts. If we were to merge with another company as a means to acquire its assets, including its development and product candidates, the merger may result in very significant dilution to our existing stockholders.

Any product candidate that we acquire, whether by merging with another company, through a license or otherwise, may require additional development efforts prior to commercial sale, including extensive clinical testing and approval by the FDA and applicable foreign regulatory authorities. All product candidates are prone to risks of failure typical of pharmaceutical product development, including the possibility that a product candidate will not be shown to be sufficiently safe and effective for approval by regulatory authorities. In addition, we cannot provide assurance that any products that we develop or approved products that we acquire will be manufactured profitably or achieve market acceptance.

If we are not successful at acquiring products or additional product candidates, through merger, license or otherwise, we expect that we would be unable to continue our current business and would need to pursue other options, which would potentially include a return of capital to our stockholders and the dissolution of our business. The process of returning capital to our stockholders, disposition of assets and dissolving our business could be costly and time-consuming, and would consume a portion of existing cash and cash equivalents.

We have incurred significant losses in every quarter since our inception and anticipate that we will continue to incur significant losses in the future.

We are a pharmaceutical research and development company with a limited operating history. Investment in pharmaceutical product development is highly speculative because it entails substantial upfront capital

expenditures and significant risk that any potential product candidate will fail to demonstrate adequate effect or an acceptable safety profile, gain regulatory approval or become commercially viable. We do not have any products approved by regulatory authorities for marketing or commercial sale, we have not generated any revenue from product sales to date, and following our termination of further rosiptor development in June 2018, we do not have any product candidate in clinical development. We continue to incur significant expenses related to our ongoing operations. As a result, we are not profitable and have incurred losses in every reporting period since our inception in 2003. For the years ended December 31, 2018, 2017 and 2016, we reported a net loss of $31.6 million, $50.2 million and $37.0 million, respectively. As of December 31, 2018, we had an accumulated deficit since inception of $230.1 million.

We expect to continue to incur significant expenses and operating losses for the foreseeable future as we seek to identify, acquire and conduct research and development of future product candidates, and potentially begin to commercialize any future products that may achieve regulatory approval. We may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our financial condition. The size of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenues. Our prior losses and expected future losses have had, and will continue to have, an adverse effect on our financial condition. If any of our future product candidate fails in clinical trials or does not gain regulatory approval, or if approved, fails to achieve market acceptance, we may never become profitable. Even if we achieve profitability in the future, we may not be able to sustain profitability in subsequent periods.

We have a limited operating history, which may make it difficult for you to evaluate the success of our business to date and to assess our future viability.

Our operations to date have been primarily limited to organizing and staffing our company, acquiring product and technology rights, discovering and developing novel small molecule drug candidates and undertaking preclinical studies and clinical trials of rosiptor. We have not yet obtained regulatory approval for any product candidate. Consequently, evaluating our performance, viability or possibility of future success will be more difficult than if we had a longer operating history or approved products on the market.

We currently have no source of product revenue and may never become profitable.

To date, we have not generated any revenues from commercial product sales, or otherwise. Our ability to generate revenue from product sales and achieve profitability will depend upon our ability, alone or with any future collaborators, to successfully commercialize any products that we may develop, in-license or acquire in the future. Even if we are able to successfully achieve regulatory approval for any future product candidates, we do not know when any of these products will generate revenue from product sales for us, if at all. Our ability to generate revenue from any of our future product candidates also depends on a number of additional factors, including our or any future collaborators' ability to:

- complete development activities, including the necessary clinical trials;
- complete and submit new drug applications, or NDAs, to the U.S. Food and Drug Administration, or FDA, and obtain regulatory approval for indications for which there is a commercial market;
- complete and submit applications to, and obtain regulatory approval from, foreign regulatory authorities;
- set a commercially viable price for our products;
- establish and maintain supply and manufacturing relationships with third parties, and ensure adequate and legally compliant manufacturing of bulk drug substances and drug products to maintain that supply;
- develop a commercial organization capable of sales, marketing and distribution for any products for which we obtain marketing approval and intend to sell ourselves in the markets in which we choose to commercialize on our own;

- find suitable distribution partners to help us market, sell and distribute our approved products in other markets;
- obtain coverage and adequate reimbursement from third-party payors, including government and private payors;
- achieve market acceptance for our products, if any;
- establish, maintain and protect our intellectual property rights; and
- attract, hire and retain qualified personnel.

In addition, because of the numerous risks and uncertainties associated with pharmaceutical product development, any future product candidates may not advance through development or achieve the endpoints of applicable clinical trials, we are unable to predict the timing or amount of increased expenses, or when or if we will be able to achieve or maintain profitability. In addition, our expenses could increase beyond expectations if we decide, or are required by the FDA or foreign regulatory authorities, to perform studies or trials in addition to those that we currently anticipate. Even if we are able to complete the development and regulatory process for any future product candidates, we anticipate incurring significant costs associated with commercializing these products.

Even if we are able to generate revenues from the sale of any future product candidates that may be approved, we may not become profitable and may need to obtain additional funding to continue operations. If we fail to become profitable or are unable to sustain profitability on a continuing basis, then we may be unable to continue our operations at planned levels and be forced to reduce our operations.

We may engage in future acquisitions that could disrupt our business, cause dilution to our stockholders and harm our business, results of operations, financial condition and cash flows and future prospects.

While we currently have no specific plans to acquire any other businesses, we may, in the future, make acquisitions of, or investments in, companies that we believe have products, capabilities, technology and product candidates that we believe are a strategic or commercial fit with our business or otherwise offer opportunities for our Company. In connection with these acquisitions or investments, we may:

- issue stock that would substantially dilute our stockholders' percentage of ownership;
- incur debt and assume liabilities; and
- incur amortization expenses related to intangible assets or incur large and immediate write-offs.

We may not be able to complete acquisitions on favorable terms, if at all. If we do complete an acquisition, we cannot assure you that it will ultimately strengthen our competitive position or that it will be viewed positively by customers, financial markets or investors. Furthermore, future acquisitions could pose numerous additional risks to our operations, including:

- problems integrating the purchased business, products or technologies;
- increases to our expenses;
- the failure to discover undisclosed liabilities of the acquired asset or company;
- diversion of management's attention from their day-to-day responsibilities;
- harm to our operating results or financial condition;
- entrance into markets in which we have limited or no prior experience; and
- potential loss of key employees, particularly those of the acquired entity.

We may not be able to complete any acquisitions or effectively integrate the operations, products or personnel gained through any such acquisition.

We have recently reduced the size of our organization, and we may encounter difficulties in managing this development and restructuring, which could disrupt our operations. We may not achieve anticipated benefits and savings from the reduction. In addition, the reduction will make it difficult for us to re-establish necessary internal capabilities should we identify and acquire additional development and product candidates.

In July 2018, we announced a restructuring plan to reduce operating costs and better align our workforce with the needs of the business following the June 27, 2018 announcement that our Phase 3 Leadership 301 clinical trial evaluating once-daily, oral rosiptor for the treatment of IC/BPS failed to meet its primary endpoint. On November 6, 2018, our Board of Directors approved a second restructuring plan to further reduce operating costs. After the completion of both restructuring plans, we have reduced our workforce from 56 to eight employees and closed our office in San Bruno, California.The workforce reduction will result in the loss of longer-term employees, the loss of institutional knowledge and expertise and the reallocation and combination of certain roles and responsibilities across the organization, all of which could adversely affect our operations. The restructuring and possible additional cost containment measures may yield unintended consequences, such as attrition beyond our intended workforce reduction and reduced employee morale. In addition, we may not achieve anticipated benefits from the workforce reduction.

Due to our limited resources, we may not be able to effectively manage our operations or recruit and retain qualified personnel, which may result in weaknesses in our infrastructure and operations, risks that we may not be able to comply with legal and regulatory requirements, and loss of employees and reduced productivity among remaining employees. If our management is unable to effectively manage this transition and workforce reduction and additional cost containment measures, our expenses may be more than expected and we may not be able to implement our business strategy. As a result, our future financial performance and our ability to develop and commercialize our future product candidates successfully would be negatively affected.

If we identified one of our existing research stage compounds for advancement into clinical development or are successful at identifying and acquiring additional development and product candidates and did not acquire needed employees as a part of any such acquisition, we would need to re-hire a workforce with research, development, operational and other necessary capabilities or contract with third party vendors to provide these services. We may not be able to attract or retain qualified personnel in the future due to the intense competition for qualified personnel among biotechnology, pharmaceutical and other businesses and given the announcement of the restructuring of our workforce. If we are not able to attract and retain necessary personnel to accomplish our business objectives, we may experience constraints that will significantly impede the achievement of our development objectives, our ability to raise additional capital and our ability to implement our business strategy.

Replacing executive officers and key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to develop, gain regulatory approval of and commercialize products successfully. Competition to hire from this limited pool is intense, and we may be unable to hire, train, retain or motivate these additional key personnel. Many of the other pharmaceutical companies that we compete with for qualified personnel have greater financial and other resources, different risk profiles and a longer history in the industry than we do. They also may provide more diverse opportunities and better chances for career advancement. Some of these characteristics may be more appealing to high-quality candidates than what we have to offer. Further, we do not maintain “key person” insurance for any of our executives or other employees. Our failure to retain key personnel could impede the achievement of our research, development and commercialization objectives for any future development and product candidates that we identify and acquire.

Raising additional capital may cause dilution to our stockholders, restrict our operations or require us to relinquish rights to our technologies, or any future product candidates. Moreover, if we were to merge with another company as a means to acquire its assets, the merger may result in very significant dilution to our existing stockholders.

Until we can generate substantial revenue from product sales, if ever, we expect to finance future cash needs through a combination of private and public equity offerings, debt financings, strategic collaborations and alliances and licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interests of our stockholders will be diluted, and the terms may include liquidation or other preferences that adversely affect the rights of our stockholders. Additional capital may not be available on reasonable terms, if at all. If we raise additional funds through the issuance of additional debt or equity securities that could result in dilution to our stockholders, and/or increased fixed payment obligations. Furthermore, these securities may have rights senior to those of our common stock and could contain covenants that include restrictive covenants limiting our ability to take important actions and potentially impair our competitiveness, such as limitations on our ability to incur additional debt, make capital expenditures, acquire, sell or license intellectual property rights or declare dividends.

If we raise additional funds through strategic collaborations and alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, or our future product candidates, or grant licenses on terms that are not favorable to us. If we are unable to raise additional funds through equity or debt financing when needed, we may be required to delay, limit, reduce or terminate our product development or commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

We do not currently have any product candidates in clinical development or identified for clinical development. In order for our business to continue, we must identify and/or acquire product candidates that we can advance into development. One possible means by which we might do so is to merge with another company to acquire its assets, including its development and product candidates. Any such merger may result in potentially very significant dilution to our existing stockholders. The ownership of the surviving company resulting from any such merger would be split between the existing stockholders of Aquinox and the stockholders of the company that we merged with, with their ratios of ownership depending on the relative valuation attributed to us and to the company we merged with. Since we do not currently have any clinical stage development candidates, it is likely that the value attributed to Aquinox would be based primarily on our cash and cash equivalents at the time any such merger is consummated. Depending on the value attributed to any company Aquinox merged with, this could result in an exchange ratio that is unfavorable to Aquinox stockholders which would cause very significant dilution to our stockholders.

We are likely to require additional capital to finance our operations which may not be available to us on acceptable terms, or at all. If we fail to obtain necessary financing, we may be unable to complete the development and potential commercialization of develop future product candidates.

Developing pharmaceutical products, including conducting preclinical studies and clinical trials, is expensive. Our operations have consumed substantial amounts of cash since inception. If we identify and advance any future product candidates into clinical trials and launch and commercialize any product candidates for which we receive regulatory approval, we expect research and clinical development expenses, and our selling, general and administrative expenses to increase substantially. In connection with our ongoing activities, we believe that our existing cash and cash equivalents will be sufficient to fund our operating requirements for at least the next 12 months. However, circumstances may cause us to consume capital more rapidly than we anticipate. We will likely require additional capital for the further development and potential commercialization of future product candidates and may also need to raise additional funds sooner to pursue a more accelerated development of future product candidates.

If we need to secure additional financing, fundraising efforts may divert our management from our day-to-day activities, which may adversely affect our ability to develop and commercialize future product candidates. In addition, we cannot guarantee that future financing will be available in sufficient amounts or on terms acceptable to us, if at all. If we do not raise additional capital when required or on acceptable terms, we may need to:

- significantly delay, scale back or discontinue clinical trials related to the development or commercialization of any of our future product candidates or cease operations altogether;
- seek strategic alliances for research and development programs at an earlier stage than we would otherwise desire or on terms less favorable than might otherwise be available; or
- relinquish, or license on unfavorable terms, our rights to any future product candidates that we otherwise would seek to develop or commercialize ourselves.

If we need to conduct additional fundraising activities and we do not raise additional capital in sufficient amounts or on terms acceptable to us, we may be prevented from pursuing development and commercialization efforts, which will have a material adverse effect on our business, operating results and prospects.

Our forecast of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement and involves risks and uncertainties, and actual results could vary as a result of a number of factors, including the factors discussed elsewhere in this "Risk Factors" section. We have based this estimate on assumptions that may prove to be wrong, and we could spend our available capital resources sooner than we currently expect. Our future funding requirements, both near and long-term, will depend on many factors, including, but not limited to:

- our ability to identify additional product candidates for development;
- if we in-license or acquire product candidates from third parties, the cost of in-licensing or acquisition;
- the initiation, progress, timing, costs and results of clinical trials for any future product candidates;
- the clinical development plans we establish for any future product candidates;
- the achievement of milestones and our obligation to make milestone payments under our present or any future in-licensing agreements;
- the number and characteristics of product candidates that we discover, or in-license and develop;
- the outcome, timing and cost of regulatory review by the FDA and comparable foreign regulatory authorities, including the potential for the FDA or comparable foreign regulatory authorities to require that we perform more studies than those that we currently expect;
- the cost to establish, maintain, expand and defend the scope of our intellectual property portfolio, including the amount and timing of any payments we may be required to make, or that we may receive, in connection with licensing, preparing, filing, prosecuting, defending and enforcing any patent claims and maintaining and enforcing other intellectual property rights;
- the effect of competing technological and market developments;
- the costs and timing of the implementation of commercial-scale outsourced manufacturing activities; and
- the costs and timing of establishing sales, marketing, distribution and pharmacovigilance capabilities for any product candidates for which we may receive regulatory approval in territories where we choose to commercialize products on our own.

If we are unable to expand our operations or otherwise capitalize on our business opportunities due to a lack of capital, our business, results of operations, financial condition and cash flows and future prospects could be materially adversely affected.

Our future success is dependent primarily on the regulatory approval and commercialization of any future product candidates.

We do not have any products that have gained regulatory approval, nor do we have any product candidates in clinical development. As a result, our prospects, including our ability to finance our operations and generate revenue, are substantially dependent on our ability to obtain regulatory approval for, and, if approved, to successfully commercialize any future product candidates that we are able to identify and acquire. We cannot commercialize our future product candidates in the United States without first obtaining regulatory approval for the product from the FDA; similarly, we cannot commercialize our future product candidates outside of the United States without obtaining regulatory approval from comparable foreign regulatory authorities. The FDA review process for an NDA typically takes more than a year to complete and approval is never guaranteed. Before obtaining regulatory approvals for the commercial sale of our future product candidates for a target indication, we must demonstrate with substantial evidence gathered in preclinical and well-controlled clinical trials, generally including at least two well-controlled Phase 3 trials, and, with respect to approval in the United States, to the satisfaction of the FDA, that the product candidate is safe and effective for use for that target indication and that the manufacturing facilities, processes and controls are adequate. Obtaining regulatory approval for marketing of our future product candidates in one country does not ensure we will be able to obtain regulatory approval in other countries but a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory process in other countries.

Even if our future product candidates were to successfully obtain approval from the FDA and comparable foreign regulatory authorities, any approval might contain significant limitations related to use restrictions for specified age groups, gender or subpopulation of target indication, warnings, precautions or contraindications, or may be subject to burdensome post-approval study or risk management requirements. If we are unable to obtain regulatory approval for one or more jurisdictions, or any approval contains significant limitations, we may not be able to obtain sufficient funding or generate sufficient revenue to continue the development of any of our future product candidate that we may discover, in-license, develop or acquire in the future. Also, any regulatory approval of any of our future product candidates, once obtained, may be withdrawn. Furthermore, even if we obtain regulatory approval for any of our future product candidates, their commercial success will depend on a number of factors, including the following:

- development of a commercial organization or establishment of a commercial collaboration with a commercial infrastructure;
- establishment of commercially viable pricing and adequate reimbursement from third-party and government payors;
- the ability of our third-party manufacturers to manufacture quantities of our products in commercially sufficient processes and at a scale sufficient to meet anticipated demand and enable us to reduce our cost of manufacturing;
- our success in educating physicians and patients about the benefits, administration and use of our products;
- the availability, perceived advantages, relative cost, relative safety and relative efficacy of alternative and competing treatments;
- the effectiveness of our own or our potential strategic collaborators' marketing, sales and distribution strategy and operations;
- acceptance of our products as safe and effective by patients and the medical community; and
- a continued acceptable safety profile of our products following approval.

Many of these factors are beyond our control. If we, or our potential commercialization collaborators, are unable to successfully commercialize our product candidates, we may not be able to earn sufficient revenues to continue our business.

Clinical drug development involves a lengthy and expensive process with an uncertain outcome.

Clinical testing is expensive, can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy traits despite having progressed through preclinical studies and early clinical trials.

We do not currently have any product candidates in clinical development. If we are able to identify and acquire clinical stage product candidates in the future, we will not know whether planned clinical trials will begin or enroll subjects on time, need to be redesigned or will be completed on schedule, if at all. There can be no assurance that the FDA or other comparable foreign regulatory authority will not put clinical trials of any other of our product candidates on clinical hold in the future. Clinical trials may be delayed, suspended or prematurely terminated for a variety of reasons, such as:

- delay or failure in reaching agreement with the FDA or a comparable foreign regulatory authority on a trial design that we are able to execute;
- delay or failure in obtaining authorization to commence a trial or inability to comply with conditions imposed by a regulatory authority regarding the scope or design of a clinical trial;
- delay or failure in reaching agreement on acceptable terms with prospective contract research organizations, or CROs, and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- delay or failure in obtaining institutional review board (IRB) or ethics committee approval or the approval of other reviewing entities, including comparable foreign regulatory authorities, to conduct a clinical trial at each site;
- withdrawal of clinical trial sites from our clinical trials as a result of changing standards of care or the ineligibility of a site to participate in our clinical trials;
- delay or failure in recruiting and enrolling suitable subjects to participate in a trial;
- delay or failure in subjects completing a trial or returning for post-treatment follow-up;
- clinical sites and investigators deviating from trial protocol, failing to conduct the trial in accordance with regulatory requirements, or dropping out of a trial;
- inability to identify and maintain a sufficient number of trial sites, many of which may be engaged in other clinical trial programs, including some that may be for the same indication;
- failure of our third parties, such as CROs, to satisfy their contractual duties or meet expected deadlines;
- delay or failure in adding new clinical trial sites;
- ambiguous or negative interim results or results that are inconsistent with earlier results;
- feedback from the FDA, the IRB, data safety monitoring boards, or a comparable foreign regulatory authority, or results from earlier stage or concurrent preclinical studies and clinical trials, that might require modification to the protocol for the trial;
- decision by the FDA or a comparable foreign regulatory authority to impose a clinical hold following an inspection of our clinical trial operations or trial sites, or recommendation by a data safety monitoring board, the IRB or us, to suspend or terminate clinical trials at any time for safety issues or for any other reason;
- unacceptable risk-benefit profile, unforeseen safety issues or adverse side effects;
- failure to demonstrate a benefit from using a drug;
- delays in the testing, validation, manufacturing and delivery of the investigational or placebo products to the clinical sites;

- lack of adequate funding to continue the clinical trial, including the incurrence of unforeseen costs due to enrollment delays, requirements to conduct additional clinical trials or increased expenses associated with the services of our CROs and other third parties; or
- changes in governmental regulations or administrative actions.

As an organization, we have never submitted an NDA to the FDA or other marketing applications to comparable foreign regulatory authorities before, and may be unable to do so for any product candidate we are developing.

The conduct of pivotal clinical trials and the submission of a successful marketing application is a complicated process. As an organization, we have limited experience in conducting Phase 3 pivotal clinical trial and in preparing, submitting and prosecuting regulatory filings. We have not submitted an NDA to the FDA or any other marketing application to a foreign regulatory authority before. We also have had limited interactions with the FDA and comparable foreign authorities. We may be unable to successfully and efficiently execute and complete necessary clinical trials in a way that leads to marketing application submission and approval of any other product candidate we are developing. We may require more time and incur greater costs than our competitors and may not succeed in obtaining regulatory approvals of products that we develop. Failure to commence or complete, or delays in, any future clinical trials, would prevent us from, or delay us in, commercializing any other product candidate we are developing.

If we are unable to enroll subjects in clinical trials, we will be unable to complete these trials in a timely fashion.

Patient enrollment, a significant factor in the timing of clinical trials, is affected by many factors including the size and nature of the patient population, the proximity of subjects to clinical sites, local standard of care, the number of clinical sites and the rate at which they can be initiated, the eligibility criteria for the trial, the design of the clinical trial, delays or failure in obtaining authorization to commence a trial or inability to comply with conditions imposed by a regulatory authority regarding the scope or design of a clinical trial, ability to obtain and maintain patient consents, risk that enrolled subjects will drop out before completion, competing clinical trials and clinicians' and patients' perceptions as to the potential advantages of the drug being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating. Furthermore, we expect to rely on CROs and clinical trial sites to ensure the proper and timely conduct of any future clinical trials, and while we would expect to have agreements governing their committed activities, we would have limited influence over their actual performance. For example, in our Phase 1b LPS challenge proof-of-concept trial of rosiptor, a large number of data points were lost for one part of the trial through error, rendering an analysis for efficacy uninterpretable for that part. In our Leadership 301 clinical trial, we have experienced delays in initiating clinical sites.

If we experience delays in the completion or termination of, any clinical trial of any future product candidates, the commercial prospects of our product candidates will be harmed, and our ability to generate revenues from any of these product candidates will be delayed. In addition, any delays in completing our clinical trials will increase our costs, slow down our product candidate development and approval process and could shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do, and jeopardize our ability to commence product sales, which would impair our ability to generate revenues and may harm our business, results of operations, financial condition and cash flows and future prospects. In addition, many of the factors that could cause a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our future product candidates.

Because the results of preclinical testing or earlier clinical trials are not necessarily predictive of future results, any future product candidate we advance into clinical trials, may not have favorable results in later clinical trials or receive regulatory approval.

Success in preclinical testing or early clinical trials does not ensure that later clinical trials will generate adequate data to demonstrate the efficacy and safety of an investigational drug. A number of companies in the pharmaceutical and biotechnology industries, including those with greater resources and experience, have suffered significant setbacks in clinical trials, even after seeing promising results in earlier clinical trials. For example, despite showing positive trends in IC/BPS in our Phase 2 Leadership 201 clinical trial in June 2015, our Phase 3 Leadership 301 clinical trial in IC/BPS, the results of which were announced in June 2018, failed to demonstrate statistically significant results in its primary endpoint. In addition, despite showing positive results in our chronic obstructive pulmonary disease, or COPD, proof-of-concept trial following a lipopolysaccharide (LPS) challenge in healthy subjects, our Phase 2 Flagship clinical trial with rosiptor, the results of which we announced in July 2015, failed to demonstrate efficacy in COPD patients with a history of frequent exacerbations. Our Phase 2 Kinship clinical trial, the results for which we announced in November 2015, failed to demonstrate efficacy in patients with mild to moderate atopic dermatitis. Even if we believe that we have adequate data to support an application for regulatory approval to market our product candidates, FDA or other applicable foreign regulatory authorities may not agree and may require we conduct additional clinical trials. If later-stage clinical trials do not produce favorable results, our ability to achieve regulatory approval for any of our product candidates may be adversely impacted.

The regulatory approval processes of the FDA and comparable foreign regulatory authorities are lengthy, time consuming and inherently unpredictable, and if we are ultimately unable to obtain regulatory approval for our future product candidates, our business will be substantially harmed.

The time required to obtain approval by the FDA and comparable foreign regulatory authorities is unpredictable, but typically takes many years following the commencement of preclinical studies and clinical trials and depends upon numerous factors, including the substantial discretion of the regulatory authorities. In addition, approval policies, regulations, or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions. We have not obtained regulatory approval for any product candidate, and it is possible that any future product candidates we may discover, in-license or acquire and seek to develop will fail to obtain regulatory approval.

Our product candidates could fail to receive regulatory approval from the FDA or a comparable foreign regulatory authority for many reasons, including:

- disagreement over the design, implementation or number of clinical trials;
- failure to demonstrate that a product candidate is safe and effective for its proposed indication;
- failure of clinical trials to meet the level of statistical significance or clinical meaningfulness required for approval;
- failure to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks;
- disagreement over our interpretation of data from preclinical studies or clinical trials;
- disagreement over whether to accept efficacy results from clinical trial sites outside the United States where the standard of care is potentially different from that in the United States;
- the insufficiency of data collected from clinical trials of our future product candidates to support the submission and filing of an NDA or other submission or to obtain regulatory approval;
- disapproval of the manufacturing processes or facilities of third-party manufacturers with whom we contract for clinical and commercial supplies; or
- changes in the approval policies or regulations that render our preclinical and clinical data insufficient for approval.

The FDA or a comparable foreign regulatory authority may require more information, including additional preclinical or clinical data to support approval, which may delay or prevent approval and our commercialization plans, or we may decide to abandon the development program altogether. Even if we do obtain regulatory approval, our future product candidates may be approved for fewer or more limited indications than we request, approval may be granted but contingent on the performance of costly post-marketing clinical trials, or approval with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate. In addition, if our future product candidates produce undesirable side effects or safety issues, the FDA may require the establishment of a Risk Evaluation and Mitigation Strategy, or REMS, or a comparable foreign regulatory authority may require the establishment of a similar strategy, that may restrict distribution of our products and impose burdensome implementation requirements on us. Any of the foregoing scenarios could materially harm the commercial prospects for our product candidates.

Approval by the FDA does not ensure approval by comparable foreign regulatory authorities and approval by one or more foreign regulatory authorities does not ensure approval by regulatory authorities in other countries or by the FDA. However, a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory process in others. We may not be able to file for regulatory approvals and even if we file we may not receive the necessary approvals to commercialize our products in any market.

We have conducted, and may in the future conduct, clinical trials for any future product candidates in sites outside the United States and the FDA may not accept data from trials conducted in such locations.

We have conducted, and may in the future choose to conduct, clinical trials outside the United States. Although the FDA may accept data from clinical trials conducted outside the United States, acceptance of this data is subject to certain conditions imposed by the FDA. For example, the clinical trial must be well designed and conducted and performed by qualified investigators in accordance with ethical principles. The trial population must also adequately represent the U.S. population, and the data must be applicable to the U.S. population and U.S. medical practice in ways that the FDA deems clinically meaningful. Generally, the patient population for any clinical trials conducted outside of the United States must be representative of the population for whom we intend to label the product in the United States. In addition, while these clinical trials are subject to the applicable local laws, FDA acceptance of the data will be dependent upon its determination that the trials also complied with all applicable U.S. laws and regulations. There can be no assurance the FDA will accept data from trials conducted outside the United States. If the FDA does not accept the data from any clinical trials we may conduct outside the United States, it would likely result in the need for additional trials, which would be costly and time-consuming and delay or permanently halt our development of any future product candidates.

Our future product candidates may cause undesirable side effects or have other properties that could delay or prevent their regulatory approval, limit the commercial profile of an approved label, or result in significant negative consequences following any marketing approval.

Undesirable side effects caused by our future product candidates could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other comparable foreign regulatory authority. If toxicities do occur in our future clinical trials they could cause delay or even discontinuance of further development of future product candidates, which would impair our ability to generate revenues and would have a material adverse effect on our business, results of operations, financial condition and cash flows and future prospects.

As a result of undesirable side effects or further safety or toxicity issues that we may experience in our clinical trials in the future, we may not receive approval to market any future product candidates, which could prevent us from ever generating revenues or achieving profitability. Results of our trials could reveal an unacceptably high severity and prevalence of side effects. In such an event, our trials could be suspended or terminated and the FDA or comparable foreign regulatory authorities could order us to cease further development of, or deny approval of, our product candidates for any or all targeted indications. The drug-related side effects could affect patient

recruitment or the ability of enrolled subjects to complete the trial or result in potential product liability claims. Any of these occurrences may have a material adverse effect on our business, results of operations, financial condition and cash flows and future prospects.

Additionally, if any of our future product candidates receives marketing approval, and we, or others, later identify undesirable side effects caused by such product, a number of potentially significant negative consequences could result, including:

- we may be forced to suspend marketing of such product;
- regulatory authorities may withdraw their approvals of such product;
- regulatory authorities may require additional warnings on the label that could diminish the usage or otherwise limit the commercial success of such products;
- the FDA or other regulatory bodies may issue safety alerts, Dear Healthcare Provider letters, press releases or other communications containing warnings about such product;
- the FDA may require the establishment or modification of a REMS or a comparable foreign regulatory authority may require the establishment or modification of a similar strategy that may, for instance, restrict distribution of our products and impose burdensome implementation requirements on us;
- we may be required to change the way the product is administered or conduct additional clinical trials;
- we could be sued and held liable for harm caused to subjects or patients;
- we may be subject to litigation or product liability claims; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the particular product candidate, if approved.

Our operating results may fluctuate significantly on a quarterly and annual basis, which may make our future operating results difficult to predict and could cause our operating results to fall below expectations or any guidance we may provide.

Our quarterly and annual operating results have varied significantly in the past and may continue to fluctuate significantly in the future from quarter-to-quarter or year-to-year due to a variety of factors, many of which are beyond our control, which may make it difficult for us to predict our future operating results. Factors that may contribute to these fluctuations include the following, as well as other factors described elsewhere in this report:

- our ability to obtain additional funding for research and development and manufacturing activities relating to any of our future product candidates;
- the timing and cost of research and development activities relating to any of our future product candidates, which may change from time to time, including the number, size and duration of clinical trials required to demonstrate safety and efficacy;
- the cost of manufacturing any of our future product candidates, which may vary depending on the quantity of production and the terms of our agreements with manufacturers;
- expenditures that we will or may incur to acquire or develop additional product candidates and technologies;
- the level of demand for any of our future product candidates, should they receive approval, which may vary significantly;
- our ability to enroll patients in clinical trials;

- the success or failure of clinical trials through all phases of clinical development for any of our future product candidates or competing product candidates, or any other change in the competitive landscape of our industry;
- any delays in regulatory review and approval of any of our future product candidates;
- potential side effects of our future product candidates that could delay or prevent commercialization or cause an approved drug to be taken off the market;
- the ability of patients or healthcare providers to obtain coverage of, or sufficient reimbursement for, our future product candidates and our ability to achieve acceptance among patients and physicians;
- competition from existing and potential future drugs that compete with our future product candidates;
- our ability to receive approval and commercialize our future product candidates outside of the United States;
- our dependency on third-party manufacturers to supply or manufacture our future product candidates;
- our ability to establish or maintain collaborations, licensing or other arrangements;
- our ability and third parties' abilities to protect intellectual property rights;
- costs related to, and outcomes of, potential intellectual property litigation;
- costs associated with recently enacted healthcare legislation;
- our ability to adequately support future growth;
- our ability to attract and retain key personnel to manage our business effectively;
- our ability to build our finance infrastructure and improve our accounting systems and controls;
- potential product liability claims;
- potential liabilities associated with hazardous materials;
- fluctuations in foreign currency exchange rates;
- our ability to use potential future operating losses and our federal and state net operating loss carryforwards to offset taxable income;
- potential unforeseen business disruptions that increase our costs or expenses;
- our ability to maintain adequate insurance policies; and
- the changing and volatile U.S., European and global economic environments.

Investors should not rely on our quarterly or annual results as an indication of our future performance. This variability and unpredictability could also result in our failing to meet the expectations of industry or financial analysts or investors for any period. If our operating results fall below the expectations of analysts or investors or below any forecasts we may provide to the market, or if the forecasts we provide to the market are below the expectations of analysts or investors, the price of our common stock could decline substantially.

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

Even if we obtain regulatory approval for a future product candidate, it would be subject to ongoing requirements by the FDA and comparable foreign regulatory authorities governing the manufacture, quality control, further development, labeling, packaging, storage, distribution, safety surveillance, import, export, advertising, promotion, recordkeeping and reporting of safety and other post-market information. The safety profile of any product will continue to be closely monitored by the FDA and comparable foreign regulatory authorities after

approval. If the FDA or comparable foreign regulatory authorities become aware of new safety information after approval of any future product candidate, they may require labeling changes or establishment of a REMS or similar strategy, impose significant restrictions on a product's indicated uses or marketing, or impose ongoing requirements for potentially costly post-approval studies or post-market surveillance.

In addition, manufacturers of drug products and their facilities are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with current good manufacturing practice (cGMP), requirements and other regulations. If we or a regulatory agency discover previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, a regulatory agency may impose restrictions on that product, the manufacturing facility or us, including requiring recall or withdrawal of the product from the market or suspension of manufacturing. If we, our product candidates or the manufacturing facilities for our product candidates, fail to comply with applicable regulatory requirements, a regulatory agency may:

- issue warning letters or untitled letters;
- impose restrictions on the marketing or manufacturing of the product candidates;
- mandate modifications to promotional materials or require us to provide corrective information to healthcare practitioners;
- require us or any future collaborator to enter into a consent decree, which can include imposition of various fines, reimbursements for inspection costs, required due dates for specific remediation actions and penalties for noncompliance;
- seek an injunction or impose civil or criminal penalties or monetary fines;
- suspend or withdraw regulatory approval;
- suspend any ongoing clinical trials;
- refuse to approve pending applications or supplements to applications filed by us;
- suspend or impose restrictions on operations, including costly new manufacturing requirements; or
- seize or detain products, refuse to permit the import or export of products, or require us to initiate a product recall.

The occurrence of any event or penalty described above may inhibit our ability to commercialize any future product candidates and generate revenue.

The FDA strictly regulates the advertising and promotion of drug products, and drug products may only be marketed or promoted for their FDA approved uses, consistent with the product's approved labeling. Advertising and promotion of any product candidate that obtains approval in the United States will be heavily scrutinized by the FDA, the DOJ, the Office of Inspector General of the Department of Health and Human Services, state attorneys general, members of Congress and the public. Violations, including promotion of our products for unapproved or off-label uses, are subject to enforcement letters, inquiries and investigations, and civil, criminal and/or administrative sanctions by the FDA and other enforcement authorities. Additionally, advertising and promotion of any product candidate that obtains approval outside of the United States will be heavily scrutinized by relevant foreign regulatory authorities.

In the United States, engaging in impermissible promotion of our future products for off-label uses can also subject us to false claims litigation under federal and state statutes, which can lead to numerous actions, including civil, criminal and/or administrative penalties and fines and agreements that materially restrict the manner in which we promote or distribute our drug products. These false claims statutes include the federal False Claims Act, which allows the federal government, or any individual relator or whistleblower on behalf of the federal government to bring a lawsuit against a pharmaceutical company alleging submission of false or

fraudulent claims, or causing to present such false or fraudulent claims, for payment by a federal program such as Medicare or Medicaid. If the government prevails in the lawsuit, the individual relator may share in any fines or settlement funds. Since 2004, these False Claims Act lawsuits against pharmaceutical companies have increased significantly in volume and breadth, leading to several substantial civil and criminal settlements based on certain sales practices promoting off-label drug uses. This growth in litigation has increased the risk that a pharmaceutical company will have to defend a false claim action, pay settlement fines or restitution, agree to comply with burdensome reporting and compliance obligations, and be excluded from the Medicare, Medicaid and other federal and state healthcare programs. If we do not lawfully promote our products once they have received regulatory approval, we may become subject to such litigation and, if we are not successful in defending against such actions, those actions could have a material adverse effect our business, results of operations, financial condition and cash flows and future prospects.

Existing government regulations may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of any future product candidates. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and/or be subject to fines or enhanced government oversight and reporting obligations, which would adversely affect our business, prospects and ability to achieve or sustain profitability.

Our ability to use our U.S. net operating losses to offset future taxable income may be subject to certain limitations.

As of December 31, 2018, we had U.S. net operating losses, or NOLs, of $21.8 million, for which we have recorded a full valuation allowance, which may be used to offset future taxable income. These NOLs and tax credit carryforwards expire in various years beginning in 2028, if not utilized. Utilization of the NOLs may be subject to an annual limitation due to historical or future ownership change rules pursuant to Sections 382 of the Internal Revenue Code, or the Code. If we have experienced an ownership change in the past or will experience an ownership change as a result of future changes in our stock ownership, some of which changes are outside our control, the tax benefits related to the NOLs may be limited or lost. Any such disallowances may result in greater tax liabilities than we would incur in the absence of such a limitation and any increased liabilities could adversely affect our business, results of operations, financial condition and cash flow and future prospects

The recently passed comprehensive tax reform legislation could adversely affect our business and financial condition.

On December 22, 2017, President Trump signed into law new tax legislation, the Tax Cuts and Jobs Act, that significantly changes the Code. The Tax Cuts and Jobs Act, among other things, contains significant changes to corporate taxation, including reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, limitation of the tax deduction for interest expense to 30% of adjusted earnings (except for certain small businesses), limitation of the deduction for net operating losses to 80% of current year taxable income and elimination of net operating loss carrybacks, one time taxation of offshore earnings at reduced rates regardless of whether they are repatriated, immediate deductions for certain new investments instead of deductions for depreciation expense over time, and modifying or repealing many business deductions and credits. Any federal net operating losses created in 2018 and thereafter will be carried forward indefinitely pursuant to the Tax Cuts and Jobs Act. Notwithstanding the reduction in the corporate income tax rate, the overall impact of the Tax Cuts and Jobs Act is uncertain and our business and financial condition could be adversely affected. The impact of this Tax Cuts and Jobs Act on holders of our common stock is also uncertain and could be adverse. We urge investors to consult with their legal and tax advisors with respect to such legislation and the potential tax consequences of investing in our common stock.

The acquisition of control of AQXP Canada could result in adverse Canadian tax consequences, including limitations on AQXP Canada's ability to use non-capital loss carryforwards and other similar tax attributes to offset taxable income for Canadian tax purposes.

We underwent a reorganization immediately prior to the closing of our initial public offering in March 2014 which resulted in AQXP Canada becoming a wholly owned subsidiary of Aquinox USA through an exchange of shares. Under the Income Tax Act (Canada), referred to herein as the Tax Act, in connection with the exchange of shares of AQXP Canada for shares of Aquinox USA, there may be limitations on AQXP Canada's ability to use its non- capital loss carryforwards and other similar tax attributes following the acquisition of control. In general, an acquisition of control would result in AQXP Canada losing its net capital loss carryforwards, if any, and AQXP Canada's non-capital loss carryforwards and other similar tax attributes only being "useable" to offset income, excluding capital gains, derived from the business operated by AQXP Canada that generated such tax attributes or a business "similar" to such business and provided the business that generated the tax attributes continues to be carried on by AQXP Canada for profit or with a reasonable expectation of profit. We expect that we will continue to carry on the business of AQXP Canada for profit or with a reasonable expectation of profit and that, accordingly, its non-capital loss carryforwards and other similar tax attributes should be available to offset future income for Canadian tax purposes to the extent of income from that business or "similar" businesses, subject to expiry of such loss carryforwards over time pursuant to the provisions of the Tax Act. If our use of these non-capital loss carryforwards or other similar tax attributes is restricted as a result of an acquisition of control or otherwise, our Canadian federal income tax liability may be materially increased, which could adversely affect our business, results of operations, financial condition and cash flow and future prospects.

Fluctuations in foreign currency exchange rates could result in changes in our reported financial results.

We currently incur significant expenses denominated in foreign currencies, specifically in connection with our operations in Canada. In addition, we utilized numerous clinical trial sites as part of our clinical trials, many of which are located in various countries outside of the United States. These clinical trial sites invoice us in the local currency of the site. We do not engage in foreign currency hedging arrangements for our accounts payable, and, consequently, foreign currency fluctuations may adversely affect our earnings. We may decide to manage this risk by hedging our foreign currency exposure, principally through derivative contracts. Even if we decide to enter into such hedging transactions, we cannot be sure that such hedges will be effective or that the costs of such hedges will not exceed their benefits. Fluctuations in the rate of exchange between the U.S. dollar and foreign currencies, primarily the Canadian dollar, could result in material amounts of cash being required to settle the hedge transactions or could adversely affect our financial results.

Failure to obtain regulatory approval in international jurisdictions would prevent any future product candidates from being marketed outside the United States.

In order to market and sell our products in the European Union and other jurisdictions, we must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ substantially from that required to obtain FDA approval. The regulatory approval process outside the United States generally includes all of the risks associated with obtaining FDA approval. In addition, in many countries outside the United States, it is required that the product be approved for reimbursement before the product can be approved for sale in that country. Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our products in certain countries. We may not obtain approvals from regulatory authorities outside the United States on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one regulatory authority outside the United States does not ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA. A failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory approval process in others. We may not be able to file for marketing approvals and may not receive necessary approvals to

commercialize our products in any market. If we are unable to obtain approval of any of our future product candidates by regulatory authorities in the European Union or another jurisdiction, the commercial prospects of that product candidate may be significantly diminished and our business prospects could decline.

Recently enacted and future legislation, including potentially unfavorable pricing regulations or other healthcare reform initiatives, may increase the difficulty and cost for us to obtain marketing approval of, and commercialization of, our future product candidates and affect the prices we may obtain.

The regulations that govern, among other things, marketing approvals, coverage, pricing and reimbursement for new drug products vary from country to country. In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of our future product candidates, restrict or regulate post-approval activities and affect our ability to successfully sell any product candidates for which we obtain marketing approval.

In the United States in recent years, Congress has considered reductions in Medicare reimbursement for drugs administered by physicians. CMS, the agency that administers the Medicare program, also has the authority to revise reimbursement rates and to implement coverage restrictions for drugs. Cost reduction initiatives and changes in coverage implemented through legislation or regulation could decrease utilization of, and reimbursement for, any approved products, which in turn could affect the price we can receive for those products. While Medicare regulations apply only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in establishing their own coverage polices and reimbursement rates. Therefore, any reduction in reimbursement that results from federal legislation or regulation may result in a similar reduction in payments from private payors.

In March 2010, President Obama signed into law the Affordable Care Act in an effort to, among other things, broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for healthcare and health insurance industries, impose new taxes and fees on pharmaceutical and medical device manufacturers and impose additional health policy reforms. The Affordable Care Act, among other things, also expanded manufacturers' rebate liability to include covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations, increased the minimum rebate due for innovator drugs from 15.1% of average manufacturer price, or AMP, to 23.1% of AMP and capped the total rebate amount for innovator drugs at 100% of AMP. The Affordable Care Act and subsequent legislation and regulation also revised the definition of AMP for calculating and reporting Medicaid drug rebates on outpatient prescription drug prices. This could increase the amount of Medicaid drug rebates to states. Furthermore, the Affordable Care Act imposes a significant annual, nondeductible fee on companies that manufacture or import certain branded prescription drug products. Substantial provisions affecting compliance were enacted, which may affect our business practices with healthcare practitioners, and a significant number of provisions are not yet, or have only recently become, effective. Some of the provisions of the Affordable Care Act have yet to be fully implemented, while certain provisions have been subject to judicial and Congressional challenges, as well as efforts by the Trump administration to repeal or replace certain aspects of the Affordable Care Act. Since January 2017, President Trump has signed two executive orders and other directives designed to delay, circumvent, or loosen certain requirements mandated by the Affordable Care Act. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the Affordable Care Act. While Congress has not passed repeal legislation, the Tax Cuts and Jobs Act includes a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment imposed by the Affordable Care Act on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate". The Affordable Care Act has also been subject to judicial challenge. In December 2018, a federal district court judge, in a challenge brought by a number of state attorneys general, found the Affordable Care Act unconstitutional in its entirety. Pending appeals, which could take some time, the Affordable Care Act is still operational in all respects. Congress may consider other legislation to repeal or replace elements of the Affordable Care Act. Because of the continued uncertainty about

the implementation of Affordable Care Act, including the potential for further legal challenges or repeal of Affordable Care Act, we cannot quantify or predict with any certainty the likely impact of the Affordable Care Act or its repeal on our business, prospects, financial condition or results of operations.

In addition, other legislative changes have been proposed and adopted since the Affordable Care Act was enacted. On August 2, 2011, the President signed into law the Budget Control Act of 2011, which, among other things, created the Joint Select Committee on Deficit Reduction to recommend to Congress proposals in spending reductions. The Joint Select Committee did not achieve a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions to Medicare payments to providers of up to 2% per fiscal year that went into effect on April 1, 2013 and, due to subsequent legislative amendments to the statute, will remain in effect through 2025 unless additional Congressional action is taken. On January 2, 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other things, further reduced Medicare payments to several providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These laws may result in additional reductions in Medicare and other healthcare funding, which could have a material adverse effect on our customers and accordingly, our financial operations. Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. Furthermore, there has been heightened governmental scrutiny recently over the manner in which manufacturers set prices for their marketed products. For example, there have been several recent Congressional inquiries and proposed bills designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer's patient programs, and reform government program reimbursement methodologies for drug products. We cannot be sure whether additional legislative changes will be enacted, or whether existing regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of our future product candidates, if any, may be.

In the United States, the European Union and other potentially significant markets for our future product candidates, government authorities and third-party payors are increasingly attempting to limit or regulate the price of medical products and services, particularly for new and innovative products and therapies, which has resulted in lower average selling prices. Furthermore, the increased emphasis on managed healthcare in the United States and on country and regional coverage, pricing and reimbursement controls in the European Union will put additional pressure on product coverage, pricing, reimbursement and utilization, which may adversely affect our business, results of operations, financial condition and cash flows and future prospects. These pressures can arise from various sources, including but not limited to, rules and practices of managed care groups, judicial decisions and governmental laws and regulations related to Medicare, Medicaid and healthcare reform, pharmaceutical reimbursement policies and pricing in general.

Some countries require approval of the sale price of a drug before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain marketing approval for a product candidate in a particular country, but then be subject to price regulations that delay our commercial launch of the product, possibly for lengthy time periods, which could negatively impact the revenues we are able to generate from the sale of the product in that particular country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates even if our product candidates obtain marketing approval.

Laws and regulations governing international operations may preclude us from developing, manufacturing and selling certain product candidates outside of the United States and Canada and require us to develop and implement costly compliance programs.

As we expand our operations outside of the United States and Canada, we must comply with numerous laws and regulations in each jurisdiction in which we plan to operate. We must also comply with U.S. laws applicable to

the foreign operations of U.S. businesses and individuals, such as the Foreign Corrupt Practices Act, or FCPA, and Canadian laws applicable to the foreign operations of Canadian businesses and individuals, such as the Corruption of Foreign Public Officials Act, or CFPOA. The creation and implementation of international business practices compliance programs is costly and such programs are difficult to enforce, particularly where reliance on third parties is required.

The FCPA prohibits any U.S. individual or business from paying, offering, authorizing payment or offering anything of value, directly or indirectly, to any foreign official, political party or candidate for the purpose of influencing any act or decision of the foreign entity in order to assist the individual or business in obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the United States to comply with certain accounting provisions requiring us to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, and to devise and maintain an adequate system of internal accounting controls for international operations. The anti-bribery provisions of the FCPA are enforced primarily by the DOJ. The SEC is involved with enforcement of the books and records provisions of the FCPA.

Compliance with the FCPA is expensive and difficult, particularly in countries in which corruption is a recognized problem. In addition, the FCPA presents particular challenges in the pharmaceutical industry, because, in many countries, hospitals are operated by the government, and doctors and other hospital employees are considered foreign officials. Certain payments to hospitals in connection with clinical trials and other work have been deemed to be improper payments to government officials and have led to FCPA enforcement actions.

Various laws, regulations and executive orders also restrict the use and dissemination outside the United States, or the sharing with certain non-U.S. nationals, of information classified for national security purposes, as well as certain products and technical data relating to those products. Our expanding presence outside the United States will require us to dedicate additional resources to comply with these laws, and these laws may preclude us from developing, manufacturing, or selling certain products and product candidates outside the United States, which could limit our growth potential and increase our development costs.

The failure to comply with laws governing international business practices may result in substantial penalties, including suspension or debarment from government contracting. Violation of the FCPA can result in significant civil and criminal penalties. Indictment alone under the FCPA can lead to suspension of the right to do business with the U.S. government until the pending claims are resolved. Conviction of a violation of the FCPA can result in long-term disqualification as a government contractor. The termination of a government contract or relationship as a result of our failure to satisfy any of our obligations under laws governing international business practices would have a negative impact on our operations and harm our reputation and ability to procure government contracts. The SEC also may suspend or bar issuers from trading securities on U.S. exchanges for violations of the FCPA's accounting provisions.

The CFPOA prohibits Canadian businesses and individuals from giving or offering to give a benefit of any kind to a foreign public official, or any other person for the benefit of the foreign public official, where the ultimate purpose is to obtain or retain a business advantage. Furthermore, a company may be found liable for violations by not only its employees, but also by its third-party agents. Any failure to comply with the CFPOA, as well as applicable laws and regulations in foreign jurisdictions, could result in substantial penalties or restrictions on our ability to conduct business in certain foreign jurisdictions, which may have a material adverse impact on us and our share price.

Even if we are able to commercialize our future product candidates, the products may not receive coverage and adequate reimbursement from third-party payors, which could harm our business.

Our ability to commercialize any products successfully will depend, in part, on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from government authorities, private health insurers, health maintenance organizations and third-party payors. Patients who are prescribed

medications for the treatment of their conditions generally rely on third-party payors to reimburse all or part of the costs associated with their prescription drugs. Coverage and adequate reimbursement from government healthcare programs, such as Medicare and Medicaid, and private health insurers are critical to new product acceptance. Patients are unlikely to use our future product candidates unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our product candidates. A primary trend in the U.S. healthcare industry and elsewhere is cost containment. As a result, government authorities and other third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. Third-party payors may also seek additional clinical evidence, beyond the data required to obtain marketing approval, demonstrating clinical benefits and value in specific patient populations before covering our products for those patients. We cannot be sure that coverage and adequate reimbursement will be available for any product that we commercialize and, if reimbursement is available, what that level of reimbursement will be. Coverage and reimbursement may impact the demand for, or the price of, any product candidate for which we obtain marketing approval. If coverage and reimbursement are not available or are available only at limited levels, we may not be able to successfully commercialize any product candidate for which we obtain marketing approval.

There may be significant delays in obtaining coverage and reimbursement for newly approved drugs, and coverage may be more limited than the purposes for which the drug is approved by the FDA or comparable foreign regulatory authorities. Moreover, obtaining coverage does not imply that any drug will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sales and distribution. Interim reimbursement levels for new drugs, if applicable, may also not be sufficient to cover our costs and may only be temporary. Reimbursement rates may vary according to the use of the drug and the clinical setting in which it is used. Reimbursement rates may also be based in part on existing reimbursement amounts for lower cost drugs or may be bundled into the payments for other services. Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Coverage and reimbursement for drug products can differ significantly from payor to payor. As a result, the coverage and reimbursement determination process is often a time-consuming and costly process with no assurance that coverage and adequate reimbursement will be obtained or applied consistently. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own coverage and reimbursement policies. Our inability to promptly obtain coverage and profitable reimbursement rates from both government-funded and private payors for any approved products that we develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize products and our overall financial condition.

We have never marketed a drug before. If we are able to identify and acquire a product candidate that is ultimately approved for sale, but are unable to establish an effective sales force and marketing infrastructure, or enter into acceptable third-party sales and marketing or licensing arrangements, we may be unable to generate any revenue.

We do not currently have an infrastructure for the sales, marketing and distribution of pharmaceutical drug products and the cost of establishing and maintaining such an infrastructure may exceed the cost-effectiveness of doing so. While we do not currently have any product candidates in clinical development, if we were able to identify and establish product candidates and advance them through clinical development, in order to market any products that may ultimately be approved by the FDA and comparable foreign regulatory authorities, we must build our sales, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services. If we are unable to establish adequate sales, marketing and distribution capabilities, whether independently or with third parties, we may not be able to generate product revenue and may not become profitable. We will be competing with many companies that have extensive and well-funded sales and marketing operations. Without an internal commercial organization or the support of a third party to perform sales and marketing functions, we may be unable to compete successfully against these more established companies.

Our future product candidates, if any, may, if approved, fail to achieve adequate market acceptance among physicians, patients, and healthcare payors and others in the medical community necessary for commercial success.

Even if we obtain regulatory approval for any of our product candidates that we may develop or acquire in the future, the product may not gain market acceptance among physicians, healthcare payors, patients or the medical community. Our commercial success also depends on coverage and adequate reimbursement of our product candidates by third-party payors, including government payors, generally, which may be difficult or time-consuming to obtain, may be limited in scope and may not be obtained in all jurisdictions in which we may seek to market our products. Market acceptance of any of our product candidates for which we receive approval depends on a number of factors, including:

- the efficacy and safety of such product candidates as demonstrated in clinical trials;
- the clinical indications for which the product candidate is approved;
- acceptance by physicians and patients of the product candidate as a safe and effective treatment;
- the potential and perceived advantages of product candidates over alternative treatments;
- the safety of product candidates seen in a broader patient group, including a product candidate's use outside the approved indications;
- the prevalence and severity of any side effects;
- product labeling or product insert requirements of the FDA or other regulatory authorities;
- the timing of market introduction of our products as well as competitive products;
- the cost of treatment in relation to alternative treatments;
- the availability of coverage and adequate reimbursement and pricing by third-party payors and government authorities;
- relative convenience and ease of administration;
- the effectiveness of our sales and marketing efforts and those of any future collaborators; and
- unfavorable publicity relating to the product candidate.

If any of our product candidates are approved but fail to achieve market acceptance among physicians, patients, or healthcare payors, we will not be able to generate significant revenues, which would compromise our ability to become profitable.

Our relationships with healthcare professionals, principal investigators, consultants, customers (actual and potential) and third-party payors are and will be subject, directly and indirectly, to applicable anti-kickback, fraud and abuse, privacy, transparency and other healthcare laws and regulations, which could expose us to penalties, including without limitation, civil, criminal and administrative sanctions, civil penalties, damages, fines, disgorgement, individual imprisonment, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, integrity obligations, contractual damages, reputational harm, administrative burdens and diminished profits and future earnings and the curtailment or restructuring of our operations.

As a pharmaceutical company, even though we do not and will not control referrals of healthcare services or bill directly to Medicare, Medicaid or other third-party payors, federal and state healthcare laws and regulations pertaining to fraud and abuse and patients' rights are and will be applicable to our future arrangements with third-party payors and customers who are in a position to purchase, recommend and/or prescribe our product candidates for which we obtain marketing approval. These broadly applicable fraud and abuse and other healthcare laws and regulations may constrain our future business or financial arrangements and relationships

with healthcare professionals, principal investigators, consultants, customers, and third-party payors and other entities, including our marketing practices, educational programs and pricing policies. Restrictions under applicable federal and state healthcare laws and regulations that may affect our ability to operate include, but are not limited to, the following:

- the federal Anti-Kickback Statute, which, among other things, prohibits persons from knowingly and willfully soliciting, offering, receiving or providing paying any remuneration (including any kickback, bribe, or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, lease, order or recommendation of, any good, facility, item or service, for which payment may be made, in whole or in part, under a federal healthcare program such as Medicare and Medicaid;
- federal civil and criminal false claims laws, including the federal civil False Claims Act, and civil monetary penalty laws impose criminal and civil penalties, including through civil whistleblower or qui tam actions, among other things, prohibits individuals or entities from knowingly presenting, or causing to be presented, to the federal government, including the Medicare and Medicaid programs, claims for payment or approval that are false or fraudulent or from knowingly making a false statement to improperly avoid, decrease or conceal an obligation to pay money to the federal government;
- HIPAA, which, among other things, imposes criminal liability for knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or to obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (e.g. public or private) and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of or payment for healthcare benefits, items or services relating to healthcare matters;
- HIPAA, as amended by HITECH, and its implementing regulations, which also imposes certain obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information without the appropriate authorization by entities subject to the law, such as health plans, healthcare clearinghouses and healthcare providers;
- the federal Physician Payments Sunshine Act, created under Section 6002 of the Affordable Care Act and its implementing regulations, which requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report annually to CMS, information related to "payments or other transfers of value" made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, and applicable manufacturers and applicable group purchasing organizations to report annually to CMS ownership and investment interests held by physicians (as defined above) and their immediate family members and payments or other "transfers of value" to such physician owners and their immediate family members; and
- analogous local, state and foreign laws and regulations, including: state anti-kickback and false claims laws which may apply to our business practices, including, but not limited to, research, distribution, sales and marketing arrangements and claims involving healthcare items or services reimbursed by state governmental and non-governmental third-party payors, including private insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the applicable compliance guidance promulgated by the federal government; local, state and foreign laws that require drug manufacturers to track gifts and other remuneration and items of value provided to healthcare professionals and entities and file reports relating to pricing and marketing information and/or register their pharmaceutical sales representatives; and local, state and foreign laws that govern the privacy and security of health information in specified circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Efforts to ensure that our internal operations and any business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. Recent healthcare reform legislation has also strengthened these laws. For example, the Affordable Care Act, among other things, amends the intent requirement of the federal Anti-Kickback Statute, such that a person or entity no longer needs to have actual knowledge of this statute or specific intent to violate it in order to have committed a violation. In addition, the Affordable Care Act codified case law that a claim that includes items or services resulting from a violation of the federal anti-kickback statute constitutes a false or fraudulent claim for purposes of the federal civil False Claims Act. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations, agency guidance, or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental laws and regulations that may apply to us, we may be subject to penalties, including without limitation, significant civil, criminal and administrative penalties, damages, fines, disgorgement, individual imprisonment, exclusion from government funded healthcare programs, such as Medicare and Medicaid, integrity obligations, contractual damages, reputational harm, administrative burdens and diminished profits and future earnings, and the curtailment or restructuring of our operations. If any physicians or other healthcare providers or entities with whom we expect to do business are found to not be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs. Moreover, we expect there will continue to be federal, state, local and foreign laws and regulations, proposed and implemented, that could impact our operations and business. The extent to which future legislation or regulations, if any, relating to healthcare fraud abuse laws or enforcement, may be enacted or what effect such legislation or regulation would have on our business remains uncertain.

We may form strategic alliances in the future, and we may not realize the benefits of such alliances.

We may form strategic alliances, create joint ventures or collaborations or enter into licensing arrangements with third parties that we believe will complement or augment our existing business. These relationships or those like them may require us to incur non-recurring and other charges, increase our near- and long-term expenditures, issue securities that dilute our stockholders or disrupt our management and business. In addition, we face significant competition in seeking appropriate strategic partners and the negotiation process is time-consuming and complex. Moreover, we may not be successful in our efforts to establish a strategic partnership or other alternative arrangements for any future drug candidates and programs because our research and development pipeline may be insufficient, our drug candidates and programs may be deemed to be at too early a stage of development for collaborative effort and third parties may not view our drug candidates and programs as having the requisite potential to demonstrate safety and efficacy. If we license products or businesses, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations and company culture. We cannot be certain that, following a strategic transaction or license, we will achieve the revenues or specific net income that justifies such transaction. Any delays in entering into new strategic partnership agreements related to our drug candidates could also delay the development and commercialization of our drug candidates and reduce their competitiveness even if they reach the market.

Our employees, independent contractors, principal investigators, CROs, consultants, vendors and collaboration partners may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could cause significant liability for us and harm our reputation.

We are exposed to the risk of fraud or other misconduct by our employees, independent contractors, principal investigators, CROs, consultants, vendors and collaboration partners, including intentional failures to comply with FDA regulations or similar regulations of comparable foreign regulatory authorities, provide accurate information to the FDA or comparable foreign regulatory authorities, comply with manufacturing standards we have established, comply with federal and state data privacy and security, fraud and abuse and other healthcare laws and regulations and similar laws and regulations established and enforced by comparable foreign regulatory authorities, report financial information or data accurately or disclose unauthorized activities to us. Specifically,

sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Employee misconduct could also involve the improper use or misrepresentation of information obtained in the course of clinical trials or creating fraudulent data in our pre-clinical studies or clinical trials, which could result in regulatory sanctions and cause serious harm to our reputation. We have adopted a code of conduct for our directors, officers and employees, but it is not always possible to identify and deter misconduct by employees and other third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. Additionally, we are subject to the risk that a person or government could allege such fraud or other misconduct, even if none occurred. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, results of operations, financial condition and cash flows from future prospects, including the imposition of significant fines or other sanctions.

We face substantial competition, which may result in others discovering, developing or commercializing products before, or more successfully than, we do.

The development and commercialization of new drug products is highly competitive. We will face competition with respect to any future product candidates that we may seek to develop or commercialize in the future, from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide. There are a number of large pharmaceutical and biotechnology companies that currently market and sell products or are pursuing the development of products for the treatment of the disease indications for which we are developing or may develop our future product candidates for. Some of these competitive products and therapies may be based on scientific approaches that are the same as or similar to our approach, and others are based on entirely different approaches. Potential competitors also include academic institutions, government agencies and other public and private research organizations that conduct research, seek patent protection and establish collaborative arrangements for research, development, manufacturing and commercialization.

More established companies may have a competitive advantage over us due to their greater size, cash flows and institutional experience. Compared to us, many of our competitors may have significantly greater financial, technical and human resources.

As a result of these factors, our competitors may obtain regulatory approval of their products before we do, which will limit our ability to develop or commercialize any of our future product candidates. In addition, many companies are developing new therapeutics, and we cannot predict what the standard of care will be as our product candidates progress through clinical development.

We believe that our ability to successfully compete will depend on, among other things:

- the efficacy and safety profile of our future product candidates, including relative to marketed products and product candidates in development by third parties;
- the time it takes for any of our future product candidates to complete clinical development and receive marketing approval;
- the ability to commercialize future product candidates that receive regulatory approval;
- whether coverage and adequate levels of reimbursement are available under private and governmental health insurance plans, including Medicare;
- the ability to establish, maintain and protect intellectual property rights related to our product candidates;

- the ability to manufacture commercial quantities of any future product candidates that receive regulatory approval; and
- acceptance of our future product candidates that receive regulatory approval by physicians and other healthcare providers.

Product liability lawsuits against us could cause us to incur substantial liabilities and to limit commercialization of any products that we may develop.

We face an inherent risk of product liability exposure related to the testing of rosiptor and any future product candidates in human clinical trials and will face an even greater risk if we commercially sell any products that we may develop. Product liability claims may be brought against us by subjects enrolled in our clinical trials, patients, healthcare providers or others using, administering or selling our products. If we cannot successfully defend ourselves against claims that our product candidates or products caused injuries, we could incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any product candidates or products that we may develop;
- termination of clinical trial sites or entire trial programs;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- significant costs to defend the related litigation;
- substantial monetary awards to trial subjects or patients;
- loss of revenue;
- diversion of management and scientific resources from our business operations; and
- the inability to commercialize our product candidates.

We currently have product liability insurance coverage, which is limited to $10 million per occurrence and $10 million in the aggregate. This coverage may not be adequate to cover all liabilities that we may incur. Insurance coverage is becoming increasingly expensive and in the future we may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise. We intend to expand our insurance coverage for products to include the sale of commercial products if we obtain marketing approval for our future product candidates, but we may be unable to obtain commercially reasonable product liability insurance for any products approved for marketing. Large judgments have been awarded in class action lawsuits based on drugs that had unanticipated side effects. A successful product liability claim or series of claims brought against us, particularly if judgments exceed our insurance coverage, could decrease our cash and adversely affect our business.

We may engage in future acquisitions that could disrupt our business, cause dilution to our stockholders and harm our business, results of operations, financial condition and cash flows and future prospects.

While we currently have no specific plans to acquire any other businesses, we may, in the future, make acquisitions of, or investments in, companies that we believe have products or capabilities that are a strategic or commercial fit with our future product candidates and business or otherwise offer opportunities for our company. In connection with these acquisitions or investments, we may:

- issue stock that would dilute our stockholders' percentage of ownership;
- incur debt and assume liabilities; and
- incur amortization expenses related to intangible assets or incur large and immediate write-offs.

We may not be able to complete acquisitions on favorable terms, if at all. If we do complete an acquisition, we cannot assure you that it will ultimately strengthen our competitive position or that it will be viewed positively by customers, financial markets or investors. Furthermore, future acquisitions could pose numerous additional risks to our operations, including:

- problems integrating the purchased business, products or technologies;
- increases to our expenses;
- the failure to discover undisclosed liabilities of the acquired asset or company;
- diversion of management's attention from their day-to-day responsibilities;
- harm to our operating results or financial condition;
- entrance into markets in which we have limited or no prior experience; and
- potential loss of key employees, particularly those of the acquired entity.

We may not be able to complete any acquisitions or effectively integrate the operations, products or personnel gained through any such acquisition.

Our business and operations would suffer in the event of computer system failures or security breaches.

In the ordinary course of our business, we collect, store and transmit confidential information, including intellectual property, proprietary business information and personal information. Despite the implementation of security measures, our internal computer systems, and those of our CROs and other third parties on which we rely, are vulnerable to damage from computer viruses, unauthorized access, cyberattacks, natural disasters, fire, terrorism, war and telecommunication and electrical failures. Cyberattacks are increasing in their frequency, sophistication and intensity. Cyberattacks could include the deployment of harmful malware, denial-of-service attacks, social engineering and other means to affect service reliability and threaten the confidentiality, integrity and availability of information. Significant disruptions of our information technology systems or security breaches could adversely affect our business operations and/or result in the loss, misappropriation, and/or unauthorized access, use or disclosure of, or the prevention of access to, confidential information (including trade secrets or other intellectual property, proprietary business information and personal information), and could result in financial, legal, business and reputational harm to us. If such disruptions were to occur and cause interruptions in our operations, it could result in a material disruption of our drug development programs. For example, the loss of clinical trial data from completed, ongoing or planned clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach results in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the further development of our future product candidates could be delayed.

Business disruptions could seriously harm our future revenues and financial condition and increase our costs and expenses.

Our operations could be subject to earthquakes, power shortages, telecommunications failures, water shortages, floods, hurricanes, typhoons, fires, extreme weather conditions, medical epidemics and other natural or manmade disasters or business interruptions, for which we are predominantly self-insured. We do not carry insurance for all categories of risk that our business may encounter. The occurrence of any of these business disruptions could seriously harm our operations and financial condition and increase our costs and expenses. We rely on third-party manufacturers to produce our product candidates. Our ability to obtain clinical supplies of product candidates could be disrupted, if the operations of these suppliers are affected by a man-made or natural disaster or other business interruption. The ultimate impact on us, our significant suppliers and our general infrastructure of being consolidated in certain geographical areas is unknown, but our operations and financial condition could suffer in

the event of a major earthquake, fire or other natural disaster. Further, any significant uninsured liability may require us to pay substantial amounts, which would adversely affect our business, results of operations, financial condition and cash flows from future prospects.

Risks Related to Our Dependence on Third Parties

We rely on third parties to conduct our preclinical studies and clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, this could substantially harm our business because we may not be able to obtain regulatory approval for or commercialize our future product candidates in a timely manner or at all.

We have extensively relied upon, and plan to continue to extensively rely upon, third-party CROs and other consultants to monitor and manage data for our ongoing preclinical and clinical programs. We rely on these parties for execution of our preclinical studies and clinical trials, and we control only some aspects of their activities. Nevertheless, we are responsible for ensuring that each of our studies and clinical trials is conducted in accordance with the applicable protocol and legal, regulatory and scientific standards, and our reliance on the CROs does not relieve us of our regulatory responsibilities. We also rely on third parties to assist in conducting our preclinical studies in accordance with Good Laboratory Practices, or GLP, and the Animal Welfare Act requirements. We and our CROs are required to comply with federal regulations and current Good Clinical Practices, or GCP, which are international standards meant to protect the rights and health of patients that are enforced by the FDA, the Competent Authorities of the Member States of the European Economic Area, or EEA, and comparable foreign regulatory authorities for all of our products in clinical development. Regulatory authorities enforce GCP through periodic inspections of trial sponsors, principal investigators and trial sites. If we or any of our CROs or consultants fail to comply with applicable GCP, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our clinical trials comply with GCP requirements. In addition, our clinical trials must be conducted with product produced under cGMP requirements. Failure to comply with these regulations may require us to repeat preclinical studies and clinical trials, which would delay the regulatory approval process.

Our CROs are not our employees, and except for remedies available to us under our agreements with such CROs, we cannot control whether or not they devote sufficient time and resources to our ongoing clinical, nonclinical and preclinical programs. If CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines or if the quality or accuracy of the clinical data is compromised due to the failure to adhere to our clinical protocols, regulatory requirements or for other reasons, our clinical trials may be extended, delayed or terminated and we may not be able to obtain regulatory approval for or successfully commercialize any future product candidates. As a result, our results of operations and the commercial prospects for our product candidates would be harmed, our costs could increase and our ability to generate revenues could be delayed.

Because we have relied on third parties, our internal capacity to perform these functions is limited. Outsourcing these functions involves risk that third parties may not perform to our standards, may not produce results in a timely manner or may fail to perform at all. In addition, the use of third-party service providers requires us to disclose our proprietary information to these parties, which could increase the risk that this information will be misappropriated. We currently have a small number of employees, which limits the internal resources we have available to identify and monitor our third-party providers. To the extent we are unable to identify and successfully manage the performance of third-party service providers in the future, our business may be adversely affected. Though we carefully manage our relationships with our CROs and consultants, there can be no assurance that we will not encounter challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, results of operations, financial condition and cash flows and future prospects.

If our relationships with CROs terminate, our drug development efforts could be delayed.

We rely on third-party vendors and CROs for preclinical studies and clinical trials related to our drug development efforts. Switching or adding additional CROs would involve additional cost and requires management time and focus. Our CROs have the right to terminate their agreements with us in the event of an uncured material breach. In addition, some of our CROs have an ability to terminate their respective agreements with us if it can be reasonably demonstrated that the safety of the subjects participating in our clinical trials warrants such termination, if we make a general assignment for the benefit of our creditors or if we are liquidated. If any of our relationships with our third-party CROs terminate, we could experience a significant delay in identifying, qualifying and managing performance of a comparable third-party service provider, which could adversely affect our development programs. In addition, there is a natural transition period when a new CRO commences work and the new CRO may not provide the same type or level of services as the original provider. We may not be able to enter into arrangements with alternative CROs or do so on commercially reasonable terms.

We have no experience manufacturing our product candidates on a large clinical or commercial scale and have no manufacturing facility. As a result, we are dependent on third-party manufacturers, as well as on third parties for our supply chain, and if we experience problems with any third parties, or the actual demand for our future product candidates exceed our forecasts, the manufacture of adequate supplies of our future product candidates or products could be delayed.

We do not own or operate facilities for the manufacture of our product candidates. We currently have no plans to build our own manufacturing facilities for clinical or commercial operations. We have in the past relied on contract manufacturing organizations, or CMOs, for the chemical manufacture of active pharmaceutical ingredient of rosiptor and for the production of final product formulation and packaging for clinical trials, and expect to rely on CMOs for any future product candidate we are able to advance into clinical development. Although alternative third-party suppliers with the necessary manufacturing and regulatory expertise and facilities exist, it could be expensive and take a significant amount of time to arrange for alternative suppliers should we commence clinical development of any future product candidate. We may encounter technical difficulties or delays in the transfer of manufacturing on a commercial scale to third-party manufacturers. We may be unable to enter into agreements for commercial supply with third-party manufacturers, or may be unable to do so on acceptable terms. If we are unable to arrange for alternative third-party manufacturing sources, or to do so on commercially reasonable terms or in a timely manner, we may not be able to complete development of any product candidates, or market or distribute them.

Reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured product candidates or products ourselves, including reliance on the third party for regulatory compliance and quality assurance, the possibility of breach of the manufacturing agreement by the third party because of factors beyond our control, including a failure to synthesize and manufacture our product candidates or any products we may eventually commercialize in accordance with our specifications, and the possibility of termination or nonrenewal of the agreement by the third party, based on its own business priorities, at a time that is costly or damaging to us. In addition, the FDA and other regulatory authorities require that our product candidates and any products that we may eventually commercialize be manufactured according to cGMP and similar foreign standards. Any failure by our third-party manufacturers to comply with cGMP or failure to scale up manufacturing processes, including any failure to deliver sufficient quantities of product candidates in a timely manner, could lead to a delay in, or failure to obtain, regulatory approval of any of our product candidates and could cause us to incur higher costs and prevent us from commercializing our product candidates successfully. In addition, such failure could be the basis for the FDA to issue a warning letter, withdraw approvals for product candidates previously granted to us, or take other regulatory or legal action, including recall or seizure of outside supplies of the product candidate, total or partial suspension of production, suspension of ongoing clinical trials, refusal to approve pending applications or supplemental applications, detention of products, refusal to permit the import or export of products, injunction, or imposing civil and criminal penalties.

Any significant disruption in our supplier relationships could harm our business. Any significant delay in the supply of a product candidate or its key materials for an ongoing clinical trial could considerably delay completion of our clinical trials, product testing and potential regulatory approval of our product candidates. If our manufacturers or we are unable to purchase these key materials after regulatory approval has been obtained for our product candidates, the commercial launch of our product candidates would be delayed or there would be a shortage in supply, which would impair our ability to generate revenues from the sale of our product candidates. If our CMOs cannot manufacture sufficient quantity to meet the demand for our product candidates after regulatory approval, there would be a shortage in supply which would negatively impact our revenue from the sale of our product candidates. It may take several years to establish an alternative source of supply for our product candidates and to have any such new source approved by the FDA.

We may not be successful in establishing and maintaining collaborations that leverage our capabilities in pursuit of developing and commercializing our product candidates.

For rosiptor and any of our future product, we plan to evaluate the merits of entering into collaboration arrangements with third parties, including leading biotechnology companies or non-governmental organizations. In May 2018, we entered into a collaboration agreement with Astellas, pursuant to which we granted Astellas an exclusive, royalty-bearing license to use, research, develop, manufacture and commercialize rosiptor, and related compounds for all human diseases and conditions in Japan and certain other countries in the Asia-Pacific region, including major markets such as Taiwan, Indonesia, Malaysia, South Korea, and Australia, but excluding China and India. However, on September 4, 2018, we received notice from Astellas that it was terminating this exclusive license and collaboration agreement effective March 4, 2019, unless an earlier termination date is agreed to by the parties. On November 8, 2018, the Company entered into an Early Termination Agreement with Astellas to terminate the exclusive license and collaboration agreement between the Company and Astellas effective November 8, 2018. We expect to selectively pursue collaboration arrangements with third parties that have particular technology, expertise or resources for the development or commercialization of our product candidates or for accessing particular markets. We face, and will continue to face, significant competition in seeking appropriate partners for our product candidates. If we are unable to identify partners whose capabilities complement and integrate well with ours and reach collaboration arrangements with such partners on a timely basis, on acceptable terms or at all, or if the arrangements we establish are unproductive for us, we may fail to meet our business objectives for the particular product candidate. Our ability to enter into such arrangements with respect to products in development that are subject to licenses may be limited by the terms of those licenses.

Any collaboration that we have entered into, such as our agreement with Astellas, or may consider entering into, may not be successful and the success of our collaboration arrangements will depend heavily on the efforts and activities of our collaborative partners. It is likely that our collaborative partners will have significant discretion in determining the efforts and resources that they will apply to these collaborations.

The risks that we are subject to in any of our collaborations include, among others:

- our collaborative partners may not commit adequate resources to the development, marketing and distribution of any collaboration products, limiting our potential revenues from these products;
- our collaborative partners may experience financial difficulties and may therefore be unable to meet their commitments to us;
- our collaborative partners may pursue a competing product candidate developed either independently or in collaboration with others, including our competitors; and
- our collaborative partners may terminate our relationship.

The failure of any of our current or future collaboration partners to perform as expected could place us at a competitive disadvantage and adversely affect us financially, including delay and increased costs of development, loss of market opportunities, lower than expected revenues and impairment of the value of the

related product candidate. Collaborations are a critical part of our business strategy, and any inability on our part to establish and successfully maintain such arrangements on terms favorable to us or to work successfully with our collaborative partners could have an adverse effect on our operations and financial performance.

Risks Related to Intellectual Property

If we are unable to obtain or protect intellectual property rights, our competitive position could be harmed.

We depend on our ability to protect our proprietary technology. We rely on trade secret, patent, copyright and trademark laws, and confidentiality, licensing and other agreements with employees and third parties, all of which offer only limited protection. Our commercial success will depend in large part on our ability to obtain and maintain patent protection in the United States and other countries with respect to our proprietary technology and products. Where we have the right to do so under our license agreements, we seek to protect our proprietary position by filing patent applications in the United States and abroad related to our novel technologies and products that are important to our business. The patent positions of biotechnology and pharmaceutical companies generally are highly uncertain, involve complex legal and factual questions and have in recent years been the subject of much litigation. As a result, the issuance, scope, validity, enforceability and commercial value of our patents, including those patent rights licensed to us by third parties, are highly uncertain.

The steps we have taken to protect our proprietary rights may not be adequate to preclude misappropriation of our proprietary information or infringement of our intellectual property rights, both inside and outside the United States. The rights already granted under any of our currently issued patents and those that may be granted under future issued patents may not provide us with the proprietary protection or competitive advantages we are seeking. If we are unable to obtain and maintain patent protection for our technology and products, or if the scope of the patent protection obtained is not sufficient, our competitors could develop and commercialize technology and products similar or superior to ours, and our ability to successfully commercialize our technology and products may be adversely affected.

With respect to patent rights, we do not know whether any of the pending patent applications for any of our discovered or licensed compounds will result in the issuance of patents that protect our technology or products, or if any of our issued patents will effectively prevent others from commercializing competitive technologies and products. Our pending applications cannot be enforced against third parties practicing the technology claimed in such applications unless and until a patent issues from such applications. Further, the examination process may require us or our future potential licensor(s) to narrow the claims for our pending patent applications, which may limit the scope of patent protection that may be obtained if these applications issue. Because the issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, issued patents that we own or have licensed from third parties may be challenged in the courts or patent offices in the United States and abroad. Such challenges may result in the loss of patent protection, the narrowing of claims in such patents or the invalidity or unenforceability of such patents, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection for our technology and products. Protecting against the unauthorized use of our patented technology, trademarks and other intellectual property rights is expensive, difficult and may in some cases not be possible. In some cases, it may be difficult or impossible to detect third-party infringement or misappropriation of our intellectual property rights, even in relation to issued patent claims, and proving any such infringement may be even more difficult.

We could be required to incur significant expenses to strengthen our intellectual property rights, and our intellectual property rights may be inadequate to protect our competitive position.

The patent prosecution process is expensive and time-consuming, and we or our future potential licensors may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we or our future potential licensors will fail to identify patentable aspects of inventions made in the course of our development and commercialization activities before it is too late to obtain

patent protection on them. Further, given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours. We expect to seek extensions of patent terms in the United States and, if available, in other countries where we are prosecuting patents. In the United States, the Drug Price Competition and Patent Term Restoration Act of 1984 permits a patent term extension of up to five years beyond the expiration of the patent. However, the applicable authorities, including the FDA in the United States, and any equivalent regulatory authority in other countries, may not agree with our assessment of whether such extensions are available, and may refuse to grant extensions to our patents, or may grant more limited extensions than we request. If this occurs, our competitors may be able to take advantage of our investment in development and clinical trials by referencing our clinical and preclinical data and launch their product earlier than might otherwise be the case. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our patents or narrow the scope of our patent protection. The laws of foreign countries may not protect our rights to the same extent as the laws of the United States, and these foreign laws may also be subject to change. For example, methods of treatment and manufacturing processes may not be patentable in certain jurisdictions. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing or in some cases not at all. Therefore we cannot be certain that we or our licensors were the first to make the inventions claimed in our owned or licensed patents or pending patent applications, or that we or our licensors were the first to file for patent protection of such inventions.

Our patent applications and the enforcement or defense of our issued patents may be impacted by the application of or changes in U.S. and foreign standards.

The standards that the U.S. Patent and Trademark Office, or the USPTO, and foreign patent offices use to grant patents are not always applied predictably or uniformly and can change. Consequently, our pending patent applications may not be allowed and, if allowed, may not contain the type and extent of patent claims that will be adequate to conduct our business as planned. Additionally, any issued patents we currently own or obtain in the future may have a shorter patent term than expected or may not contain claims that will permit us to stop competitors from using our technology or similar technology or from copying our product candidates. Similarly, the standards that courts use to interpret patents are not always applied predictably or uniformly and may evolve, particularly as new technologies develop. In addition, changes to patent laws in the United States or other countries may be applied retroactively to affect the validation enforceability, or term of our patent. For example, the U.S. Supreme Court has recently modified some legal standards applied by the USPTO in examination of U.S. patent applications, which may decrease the likelihood that we will be able to obtain patents and may increase the likelihood of challenges to patents we obtain or license. In addition, changes to the U.S. patent system have come into force under the Leahy-Smith America Invents Act, or the Leahy-Smith Act, which was signed into law in September 2011. The Leahy-Smith Act included a number of significant changes to U.S. patent law. These include provisions that affect the way patent applications will be prosecuted and may also affect patent litigation. In particular, under the Leahy-Smith Act, the United States transitioned in March 2013 to a “first to file” system in which the first inventor to file a patent application will be entitled to the patent. Third parties are allowed to submit prior art before the issuance of a patent by the USPTO, and may become involved in opposition, derivation, reexamination, inter-partes review or interference proceedings challenging our patent rights or the patent rights of others. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, which could adversely affect our competitive position.

While we cannot predict with certainty the impact the Leahy-Smith Act or any potential future changes to the U.S. or foreign patent systems will have on the operation of our business, the Leahy-Smith Act and such future changes could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business, results of operations, financial condition and cash flows and future prospects.

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

Periodic maintenance and annuity fees on any issued patent are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. If we or our future potential licensors fail to maintain the patents and patent applications covering our future product candidates, our competitive position would be adversely affected.

We may be subject to claims by third parties claiming ownership of what we regard as our own intellectual property.

Many of our employees, including our senior management, were previously employed at universities or at other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Some of these employees, including members of our senior management, executed proprietary rights, non-disclosure and non-competition agreements, in connection with such previous employment. Although we try to ensure that our employees do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we, or these employees, have used or disclosed confidential information or intellectual property, including trade secrets or other proprietary information, of any such employee's former employer. We are not aware of any threatened or pending claims related to these matters or concerning the agreements with our senior management, but in the future litigation may be necessary to defend against such claims. In addition, third parties may from time to time make claims over what we regard as our intellectual property, or we may get into disputes with licensors or licensees of our intellectual property rights over the interpretation of the license terms. Our licensors may have the right to terminate their license agreements with us or pursue damages or other legal remedies. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel or sustain damages. Such intellectual property rights could be awarded to a third party, and we could be required to obtain a license from such third party to commercialize our technology or products. Such a license may not be available on commercially reasonable terms or at all. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.

In addition to seeking patents for some of our technology and products, we also rely on trade secrets, including unpatented know-how, technology and other proprietary information, to maintain our competitive position. We seek to protect these trade secrets, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, corporate collaborators, outside scientific collaborators, CMOs, consultants, advisors and other third parties. We also generally enter into confidentiality and invention or patent assignment agreements with our employees and consultants. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts both within and outside the United States may be less willing or unwilling to protect trade secrets. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we

would have no right to prevent such competitor from using that technology or information to compete with us, which could harm our competitive position.

Although we expect all of our employees to assign their inventions to us, and all of our employees, consultants, advisors and any third parties who have access to our proprietary know-how, information or technology to enter into confidentiality agreements, we cannot provide any assurances that all such agreements have been duly executed or that our trade secrets and other confidential proprietary information will not be disclosed or that competitors will not otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. Additionally, if the steps taken to maintain our trade secrets are deemed inadequate, we may have insufficient recourse against third parties for misappropriating the trade secret. In addition, others may independently discover our trade secrets and proprietary information. For example, the FDA, as part of its Transparency Initiative, is currently considering whether to make additional information publicly available on a routine basis, including information that we may consider to be trade secrets or other proprietary information, and it is not clear at the present time how the FDA's disclosure policies may change in the future, if at all.

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

Filing, prosecuting and defending patents on our product candidates throughout the world would be prohibitively expensive. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we and our licensors or future collaborators may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products, and may export otherwise infringing products to territories where we have patent protection, but where enforcement is not as strong as that in the United States. These products may compete with our products in jurisdictions where we do not have any issued patents and our patent claims or other intellectual property rights may not be effective or sufficient to prevent them from so competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biopharmaceuticals, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful.

The requirements for patentability may differ in certain countries, particularly developing countries. For example, unlike other countries, China has a heightened requirement for patentability, and specifically requires a detailed description of medical uses of a claimed drug. In India, unlike the United States, there is no link between regulatory approval of a drug and its patent status. Furthermore, generic or biosimilar drug manufacturers or other competitors may challenge the scope, validity or enforceability of our or our licensors' or collaborators' patents, requiring us or our licensors or collaborators to engage in complex, lengthy and costly litigation or other proceedings. Generic or biosimilar drug manufacturers may develop, seek approval for, and launch biosimilar versions of our products. In addition to India, certain countries in Europe and developing countries, including China, have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In those countries, we and our licensors or collaborators may have limited remedies if patents are infringed or if we or our licensors or collaborators are compelled to grant a license to a third party, which could materially diminish the value of those patents. This could limit our potential revenue opportunities. Accordingly, our and our licensors' or collaborators' efforts to enforce intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we own or license.

Intellectual property rights do not necessarily address all potential threats to any competitive advantage we may have.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our business, or permit us to maintain our competitive advantage. The following examples are illustrative:

- Others may be able to make compounds that are the same as or similar to our future product candidates but that are not covered by the claims of the patents that we own or have exclusively licensed.
- We or any of our licensors or strategic partners might not have been the first to make the inventions covered by the issued patent or pending patent application that we own or have exclusively licensed.
- We or any of our licensors or strategic partners might not have been the first to file patent applications covering certain of our inventions.
- Others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights.
- It is possible that our pending patent applications will not lead to issued patents.
- Issued patents that we own or have exclusively licensed may not provide us with any competitive advantages, or may be held invalid or unenforceable, as a result of legal challenges by our competitors.
- Our competitors might conduct research and development activities in the United States and other countries that provide a safe harbor from patent infringement claims for certain research and development activities, as well as in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets.
- We may not develop additional proprietary technologies that are patentable.
- The patents of others may have an adverse effect on our business.

Risks Related to Ownership of Our Common Stock

Our stock price has been and will likely continue to be volatile and may decline regardless of our operating performance, resulting in substantial losses for investors.

The trading price of our common stock has been, and is likely to continue to be, volatile for the foreseeable future. For example, in the year ended December 31, 2018, our common stock's sales price on The Nasdaq Global Market ranged from a low of $1.96 to a high of $16.90, and on June 27, 2018, following announcement of our Leadership 301 results, the closing price of a share of our common stock was $2.34. The trading price of our common stock could be subject to wide fluctuations in response to various factors, some of which are beyond our control. In addition to the factors discussed in this "Risk Factors" section and elsewhere in this report, these factors include:

- the success of competitive products or technologies;
- regulatory actions with respect to our products or our competitors' products;
- actual or anticipated changes in our growth rate relative to our competitors;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations or capital commitments;
- results of clinical trials, including both safety and efficacy, of any of our future product candidates or those of our competitors;
- regulatory or legal developments in the United States and other countries;

- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our future product candidates or clinical development programs;
- the results of our efforts to in-license or acquire additional product candidates or products;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- variations in our financial results or those of companies that are perceived to be similar to us;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;
- announcement or expectation of additional financing efforts;
- sales of our common stock by us, our insiders or our other stockholders;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors; and
- general economic, industry and market conditions.

In addition, the stock market in general, and pharmaceutical and biotechnology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance. The realization of any of these risks or any of a broad range of other risks, including those described in this "Risk Factors" section and elsewhere in this report, could have a dramatic and material adverse impact on the market price of our common stock.

We may be subject to securities litigation, which is expensive and could divert management attention.

The trading price of our common stock has been and will continue to be volatile. For example, on June 26, 2018, the closing price of our common stock on The Nasdaq Global Market was $15.31, and on June 27, 2018, following our announcement of negative results from our Phase 3 Leadership clinical trial in IC/BPS, the closing price was $2.34. Similarly, on August 6, 2015, the closing price of our common stock on The Nasdaq Global Market was $1.79 and on August 7, 2015, following our announcement of positive results from secondary endpoints in our Phase 2 Leadership 201 clinical trial in IC/BPS, the closing price was $10.42 and increased to $22.13 on August 14, 2015. In the past, companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

Our principal stockholders, directors and management own a significant percentage of our stock and will be able to exert significant control over matters subject to stockholder approval.

Our executive officers, directors, holders of 5% or more of our capital stock and their respective affiliates together beneficially own a majority of our outstanding voting stock. In particular, based on information available to us, entities affiliated with Baker Bros. Advisors LP, or the Baker Entities, which together are our largest stockholders, collectively beneficially owned approximately 46.5% of our common stock as of March 6, 2019. These stockholders are able to determine the outcome of all matters requiring stockholder approval. For example, these stockholders are able to control elections of directors, amendments of our organizational documents, or approval of any merger, sale of assets, or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may feel are in your best

interest as one of our stockholders. The interests of this group of stockholders may not always coincide with your interests or the interests of other stockholders and they may act in a manner that advances their best interests and not necessarily those of other stockholders, including seeking a premium value for their common stock, and might affect the prevailing market price for our common stock.

We are an "emerging growth company" as that term is used in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and we have taken advantage of reduced disclosure and governance requirements applicable to emerging growth companies, which could result in our common stock being less attractive to investors and adversely affect the market price of our common stock or make it more difficult to raise capital as and when we need it.

We are an "emerging growth company" as that term is used in the JOBS Act, and we are taking advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved and exemptions from any rules that the Public Company Accounting Oversight Board may adopt requiring mandatory audit firm rotation or a supplement to the auditor's report on the financial statements. We have taken and currently intend to take advantage of some, but not all, of the reduced regulatory and reporting requirements that are available to us under the JOBS Act, so long as we qualify as an "emerging growth company." For example, so long as we qualify as an "emerging growth company," we may elect not to provide you with certain information, including certain financial information and certain information regarding compensation of our executive officers, that we would otherwise have been required to provide in filings we make with the SEC, which may make it more difficult for investors and securities analysts to evaluate our company. We cannot predict if investors will find our common stock less attractive because we will rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile. We may take advantage of these reporting exemptions until we are no longer an emerging growth company, which in certain circumstances could be for up to five years.

Because of the exemptions from various reporting requirements provided to us as an "emerging growth company" we may be less attractive to investors and it may be difficult for us to raise additional capital as and when we need it. Investors may be unable to compare our business with other companies in our industry if they believe that our financial accounting is not as transparent as other companies in our industry. If we are unable to raise additional capital as and when we need it, our business, results of operations, financial condition and cash flows and future prospects may be materially and adversely affected.

If we fail to maintain an effective system of internal control over financial reporting in the future, we may not be able to accurately report our business, results of operations, financial condition and cash flows and future prospects, which may adversely affect investor confidence in us and, as a result, the value of our common stock.

The Sarbanes-Oxley Act requires, among other things, that we maintain effective internal controls for financial reporting and disclosure controls and procedures and that we furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting. This assessment needs to include disclosure of any material weaknesses identified by our management in our internal control over financial reporting. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting that results in more than a reasonable possibility that a material misstatement of annual or interim financial statements will not be prevented or detected on a timely basis. Section 404 of the Sarbanes-Oxley Act also generally requires an attestation from our independent registered public accounting firm on the effectiveness of our internal control over financial reporting. However, for as long as we remain an emerging growth company

as defined in the JOBS Act, we intend to take advantage of the exemption permitting us not to comply with the independent registered public accounting firm attestation requirement.

Our compliance with Section 404 will require that we incur substantial accounting expense and expend significant management efforts. We currently do not have an internal audit group, and we will need to hire additional accounting and financial staff with appropriate public company experience and technical accounting knowledge, and compile the system and process documentation necessary to perform the evaluation needed to comply with Section 404. We may not be able to complete our evaluation, testing and any required remediation in a timely fashion. During the evaluation and testing process, if we fail to identify and to remediate any significant deficiencies or material weaknesses that may be identified, or encounter problems or delays in the implementation of internal control over financial reporting, we will be unable to assert that our internal control over financial reporting is effective. We cannot assure you that there will not be material weaknesses or significant deficiencies in our internal control over financial reporting in the future. Any failure to maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition, results of operations or cash flows. If we are unable to conclude that our internal control over financial reporting is effective, or if our independent registered public accounting firm determines we have a material weakness or significant deficiency in our internal control over financial reporting, we could lose investor confidence in the accuracy and completeness of our financial reports, the market price of our common stock could decline, and we could be subject to sanctions or investigations by the Nasdaq Stock Market, the SEC or other regulatory authorities. Failure to remedy any material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

We are subject to the periodic reporting requirements of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Our disclosure controls and procedures are designed to reasonably assure that information required to be disclosed by us in reports we file or submit under the Exchange Act is accumulated and communicated to management, recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal controls and procedures, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met.

These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements or insufficient disclosures due to error or fraud may occur and not be detected.

We have incurred and will incur increased costs as a result of operating as a public company, and our management is required to devote substantial time to new compliance initiatives.

As a public company, we have incurred and will incur significant legal, accounting and other expenses that we did not incur as a private company, and these expenses may increase even more after we are no longer an “emerging growth company.” We are subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Protection Act, as well as rules adopted, and to be adopted, by the SEC and Nasdaq Stock Market. Our management and other personnel devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations have substantially increased our legal and financial compliance costs and made some activities more time-consuming and costly. The increased costs will increase our consolidated net loss. We cannot predict or estimate the amount or timing of additional costs we may incur to respond to these requirements.

Because we do not anticipate paying any cash dividends on our capital stock in the foreseeable future, capital appreciation, if any, will be your sole source of gain.

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. In addition, the terms of any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

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

Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock.

We have in the past and may in the future grant rights to some of our stockholders that require us to register the resale of our common stock or other securities on behalf of these stockholders and/or facilitate public offerings of our securities held by these stockholders, including in connection with potential future acquisition or capital-raising transactions. For example, in connection with our public offering of common stock on September 19, 2016, we entered into a registration rights agreement with the Baker Entities that together, based on information available to us, collectively beneficially owned approximately 45.1% of our common stock as of September 19, 2016. Under the registration rights agreement, we agree that, if at any time and from time to time after December 19, 2016, the Baker Entities demand that we register their shares of our common stock for resale under the Securities Act, we would be obligated to effect such registration. On January 6, 2017, pursuant to the registration rights agreement, we registered for resale, from time to time, up to 10,536,092 shares of our common stock held by the Baker Entities. Our registration obligations under this registration rights agreement cover all shares now held or hereafter acquired by the Baker Entities, would be in effect for up to ten years, and would include our obligation to facilitate certain underwritten public offerings of our common stock by the Baker Entities in the future. If the Baker Entities or any other holders of registration rights with respect to our common stock, by exercising their registration and/or underwriting rights or otherwise, sell a large number of our shares, or the market perceives that the Baker Entities or such holders intend to sell a large number of our shares, this could adversely affect the market price of our common stock. We have registered all currently reserved shares of common stock that we may issue under our equity compensation plans and intend to register in the future any additional reserved or issued shares of common stock. These registered shares can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates. We have also filed registration statements covering the sale of up to $250.0 million and $124.6 million (remaining following the sale of $75.4 million of common stock in September 2016) of any combination of our common stock, preferred stock, debt securities or warrants and may conduct one or more sales of securities pursuant to such registration statement, from time to time.

Future sales and issuances of our common stock or rights to purchase common stock, including pursuant to our equity incentive plans, could result in additional dilution of the percentage ownership of our stockholders and could cause our stock price to fall.

We expect that significant additional capital will be needed in the future to continue our planned operations. To raise capital, we may sell substantial amounts of common stock or securities convertible into or exchangeable for common stock. These future issuances of common stock or common stock-related securities, including the exercise of outstanding options and any additional shares issued in connection with acquisitions, if any, may result in material dilution to our stockholders. New investors could also gain rights, preferences and privileges senior to those of holders of our common stock.

Pursuant to our 2014 Equity Incentive Plan, our compensation committee is authorized to grant equity-based incentive awards to our directors, executive officers and other employees and service providers, including officers, employees and service providers of our subsidiaries and affiliates. Future option grants and issuances of common stock under our 2014 Equity Incentive Plan may have an adverse effect on the market price of our common stock.

Some provisions of our charter documents and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our stockholders and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our amended and restated certificate of incorporation, or certificate of incorporation, and amended and restated bylaws, or bylaws, as well as provisions of Delaware law, could make it more difficult for a third party to acquire us or increase the cost of acquiring us, even if doing so would benefit our stockholders, or remove our current management. These include provisions that:

- permit our board of directors to issue up to 5,000,000 shares of preferred stock, with any rights, preferences and privileges as they may designate;
- provide that all vacancies on our board of directors, including as a result of newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- require that any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and not be taken by written consent;
- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide advance notice in writing, and also specify requirements as to the form and content of a stockholder's notice;
- not provide for cumulative voting rights, thereby allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election; and
- provide that special meetings of our stockholders may be called only by the board of directors or by such person or persons requested by a majority of the board of directors to call such meetings.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, who are responsible for appointing the members of our management. Because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which may discourage, delay or prevent someone from acquiring us or merging with us whether or not it is desired by or beneficial to our stockholders. Under Delaware law, a corporation may not, in general, engage in a business combination with any holder of 15% or more of its capital stock unless the holder has held the stock for three years or, among other things, the board of directors has approved the transaction. Any provision of our certificate of incorporation or bylaws or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock, and could also affect the price that some investors are willing to pay for our common stock.

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

The trading market for our common stock depends in part on the research and reports that securities or industry analysts publish about us, or our business. If one or more of the securities or industry analysts who cover us downgrade our stock or publish inaccurate or unfavorable research about our business, our stock price would likely decline. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, demand for our stock could decrease, which might cause our stock price and trading volume to decline.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Our corporate headquarters are located at 450-887 Great Northern Way, Vancouver, B.C., Canada, V5T 4T5, where we lease approximately 10,946 square feet of office space pursuant to a lease agreement that expires on October 31, 2021, with the option to extend the lease to October 31, 2026.

We believe that our existing facility is adequate for our near-term needs. We believe that suitable additional or alternative space would be available if required in the future on commercially reasonable terms.

Item 3. Legal Proceedings.

We are not currently subject to any material legal proceedings.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

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

Price Range of Our Common Stock

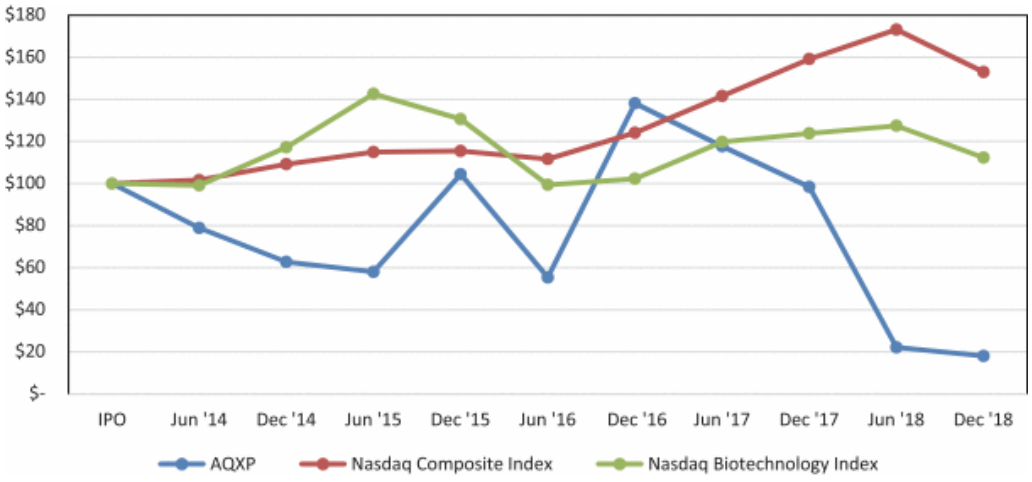
Our common stock is traded on The Nasdaq Global Market under the symbol "AQXP." As of March 6, 2019, there were 23,537,368 shares of our common stock outstanding, which were held by five holders of record of our common stock, including The Depository Trust Company, which holds shares of our common stock on behalf of an indeterminate number of beneficial owners.

Dividend Policy

We have not paid any cash dividends on our common stock since our inception. We do not intend to pay any cash dividends in the foreseeable future, but intend to retain all earnings, if any, for use in our business operations.

Stock Performance Graph

Our common stock began trading on The Nasdaq Global Market on March 7, 2014. The graph and table below shows the cumulative total return to our stockholders during the period from March 7, 2014 through December 31, 2018 in comparison to the cumulative return on the Nasdaq Composite Index and the Nasdaq Biotechnology Index during that same period. The results assume that $100 was invested on March 7, 2014 in our common stock and each of the indexes listed above, including reinvestment of dividends, if any.



For the period March 7, 2014 to December 31, 2018

Aquinox Pharmaceuticals, Inc.	$ 18.08
Nasdaq Composite Index	$ 153.02
Nasdaq Biotechnology Index	$ 112.33

This information under "Stock Performance Graph" is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference in any of our filings under the Securities Act of 1933, as

amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Annual Report on Form 10-K and irrespective of any general incorporation language in those filings.

Item 6. Selected Financial Data.

The following selected financial data should be read in conjunction with our consolidated financial statements and notes to our consolidated financial statements and "Management's Discussion and Analysis of Financial Condition and Results of Operations" contained elsewhere in this Annual Report on Form 10-K. The selected Consolidated Statements of Operations data for the years ended December 31, 2018, 2017 and 2016 and Consolidated Balance Sheet data as of December 31, 2018 and 2017 have been derived from our audited consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K. The selected Consolidated Statements of Operations data for the years ended December 31, 2015 and 2014 and Consolidated Balance Sheet data as of December 31, 2016, 2015 and 2014 have been derived from our audited consolidated financial statements prepared in accordance with U.S. GAAP which are not included in this Annual Report on Form 10-K. Historical results are not necessarily indicative of future results.

Consolidated Statement of Operations Data
(In thousands of U.S. dollars, except per share and share amounts)

	Year Ended December 31, 2018	Year Ended December 31, 2017	Year Ended December 31, 2016	Year Ended December 31, 2015	Year Ended December 31, 2014
Revenue	$ 25,000	$ —	$ —	$ —	$ —
Operating expenses:					
Research and development	41,789	36,267	28,382	15,799	18,079
General and administrative	15,835	14,852	9,263	5,541	4,296
Total operating expenses	$ 57,624	$ 51,119	$ 37,645	$ 21,340	$ 22,375
Loss from operations	$ (32,624)	$ (51,119)	$ (37,645)	$ (21,340)	$ (22,375)
Net loss	$ (31,585)	$ (50,183)	$ (37,002)	$ (21,860)	$ (24,027)
Total loss attributable to common stockholders	$ (31,585)	$ (50,183)	$ (37,002)	$ (21,860)	$ (23,821)
Net loss per common stock — basic and diluted	$ (1.34)	$ (2.14)	$ (1.96)	$ (1.73)	$ (2.75)
Basic and diluted weighted average common stock outstanding	23,519,508	23,450,315	18,893,515	12,637,839	8,667,387

Consolidated Balance Sheet Data(1)
(In thousands of U.S. dollars)

	December 31, 2018	December 31, 2017	December 31, 2016	December 31, 2015	December 31, 2014
Cash, cash equivalents and short-term investments	$ 76,928	$ 108,085	$ 103,059	$ 74,482	$ 39,097
Working capital	72,538	97,869	93,966	70,004	34,098
Total assets	77,618	110,329	154,380	113,343	41,422
Total liabilities	4,946	11,442	9,716	4,923	5,275
Total stockholders' equity	72,672	98,887	144,664	108,420	36,147
Total liabilities and stockholders' equity	77,618	110,329	154,380	113,343	41,422

(1) The 2016 Consolidated Balance Sheet Data reflect $70.7 million in net proceeds received from an underwritten public offering of our common stock that was completed in September 2016. The 2015 Consolidated Balance Sheet Data reflect $91.8 million in net proceeds received from an underwritten public offering of our common stock that was completed in September 2015. The 2014 Consolidated Balance Sheet Data reflect $47.3 million in net proceeds received from the initial public offering that was completed in March 2014.

The following table contains selected financial data for each quarter of 2018 and 2017. The information should be read in conjunction with our consolidated financial statements and related notes included in the quarterly filings with the SEC in our Quarterly Report on Form 10-Q. We believe that the following information reflects all normal recurring adjustments necessary for a fair presentation of the information for the periods presented. The operating results for any quarter are not necessarily indicative of results for any future period.

Quarterly Financial Data

(In thousands of U.S. dollars except per share information)

	THREE MONTHS ENDED			
	MARCH 31	JUNE 30	SEPTEMBER 30	DECEMBER 31
2018				
Revenue	$ —	$ 25,000	$ —	$ —
Total operating expenses	$ 14,817	$ 22,310	$ 15,197	$ 5,300
Net (loss) earnings	$ (14,623)	$ 2,918	$ (14,993)	$ (4,887)
Net (loss) earnings attributable to common stockholders	$ (14,623)	$ 2,918	$ (14,993)	$ (4,887)
Net (loss) earnings per common stock — basic and diluted	$ (0.62)	$ 0.12	$ (0.64)	$ (0.20)

	THREE MONTHS ENDED			
	MARCH 31	JUNE 30	SEPTEMBER 30	DECEMBER 31
2017				
Total operating expenses	$ 8,522	$ 13,995	$ 12,070	$ 16,532
Net loss	$ (8,316)	$(13,766)	$ (11,833)	$ (16,268)
Net loss attributable to common stockholders	$ (8,316)	$(13,766)	$ (11,833)	$ (16,268)
Net loss per common stock — basic and diluted	$ (0.36)	$ (0.59)	$ (0.50)	$ (0.69)

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

Forward-Looking Statements

The following discussion of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and related notes appearing elsewhere in this Annual Report on Form 10-K. This discussion contains forward-looking statements that reflect our plans, estimates and beliefs, and involve risks and uncertainties. Actual events or results may differ materially. Our forward-looking statements can be affected by inaccurate assumptions we might make or by known or unknown risks, uncertainties and other factors. We discuss many of these risks, uncertainties and other factors in this Annual Report on Form 10-K in greater detail under the heading "Item 1A — Risk Factors." We caution investors that our business and financial performance are subject to substantial risks and uncertainties.

Overview

We are a pharmaceutical company discovering and developing novel therapeutics for conditions marked by inflammation, inflammatory pain and blood cancers. We commenced operations in Canada in December 2003. Aquinox Pharmaceuticals (Canada) Inc., a corporation formed under the Canada Business Corporations Act, is a wholly owned subsidiary of Aquinox Pharmaceuticals, Inc., a Delaware corporation formed in May 2007. We operate in Vancouver, British Columbia, Canada.

On June 27, 2018, we announced that our Phase 3 Leadership 301 clinical trial evaluating once-daily, oral rosiptor for the treatment of interstitial cystitis/bladder pain syndrome (IC/BPS) failed to meet its primary endpoint. As a result, in July 2018, our Board of Directors approved a restructuring plan to reduce operating costs and to better align our workforce with the needs of our business going forward. All further development activities with rosiptor were halted. On November 6, 2018, our Board of Directors approved a second restructuring plan to further reduce operating costs. After the completion of both restructuring plans, we have reduced our workforce from 56 to eight employees. As of the date of this report, we do not have any product candidates in clinical development or identified for clinical development. In order for our business to continue, we must identify products or product candidates that we can advance into development. In connection with this, we and our Board of Directors are evaluating potential merger transactions with companies that have more advanced development and product candidates. We are also evaluating the potential in-license or direct acquisition of potential products and/or product candidates as well as assessing whether any of our existing research stage compounds can be advanced into clinical development. If we are unable to identify products or additional product candidates, through merger, license or otherwise, that we and our Board of Directors determine would merit the investment of our capital and resources, our Board of Directors may pursue other options, which would potentially include a return of capital to our stockholders and the dissolution of our business.

Since inception, we have incurred significant operating losses. Our net loss for the year ended December 31, 2018 was $31.6 million, compared to $50.2 million for the year ended December 31, 2017. As of December 31, 2018, we had an accumulated deficit of $230.1 million, compared to $198.5 million as of December 31, 2017. We have funded our operations primarily through the sale of common stock and preferred stock. As of December 31, 2018, we had $76.9 million in cash and cash equivalents in liquid, high-quality securities.

Results of Operations

Revenue

On May 9, 2018, we entered into an exclusive license and collaboration agreement with Astellas US LLC, a subsidiary of Astellas Pharma Inc. ("Astellas"). Astellas was granted an exclusive, royalty-bearing license to use, research, develop, manufacture and commercialize rosiptor and related compounds for all human diseases and conditions in Japan and certain other countries in the Asia-Pacific region, including major markets such as Taiwan, Indonesia, Malaysia, South Korea, and Australia, but excluding China and India. As consideration for entering into this agreement, we received a non-refundable upfront payment of $25.0 million and potential future development and commercial milestone payments, as well as royalties on any future sales of rosiptor within the licensed territory. On September 4, 2018, we received notice from Astellas that it was terminating this exclusive license and collaboration agreement effective March 4, 2019, unless an earlier termination date is agreed to by

the parties. On November 8, 2018, the Company entered into an Early Termination Agreement with Astellas to terminate the exclusive license and collaboration agreement between the Company and Astellas effective November 8, 2018. The upfront payment of $25.0 million from Astellas is non-refundable and has been recorded as revenue for the year ended December 31, 2018.

Operating Expenses

The following table summarizes our operating expenses for the years ended December 31, 2018, 2017 and 2016:

	YEAR ENDED DECEMBER 31, (in thousands of U.S. dollars)		
	2018	2017	2016
Research and development	$41,789	$36,267	$28,382
General and administrative	15,835	14,852	9,263
Total operating expenses	$57,624	$51,119	$37,645

Research and Development Expenses

On June 27, 2018, we announced that our Phase 3 Leadership 301 clinical trial evaluating once-daily, oral rosiptor for the treatment of IC/BPS failed to meet its primary endpoint. The Leadership 301 clinical trial enrolled 433 participants, including 341 female subjects who were randomized to receive rosiptor 100 mg or 200 mg, or placebo. Rosiptor failed to achieve a statistically significant reduction in the mean change from baseline at Week 12 in maximum daily bladder pain score compared to placebo (P=0.41) in the female subjects, which was the primary endpoint. As a result, all further development activities with rosiptor were halted.

Our research and development expenses consisted primarily of costs incurred for the development of rosiptor and other future product candidates. Research and development expenses include:

- costs associated with research, development and regulatory activities;
- employee-related expenses, including salaries, benefits, severance, travel and stock-based compensation expense;
- expenses incurred under agreements with contract research organizations, or CROs, and investigative sites that conduct our clinical trials and preclinical studies;
- the cost of acquiring and manufacturing our products, for preclinical studies and clinical trials;
- cost incurred in relation to purchase of technology licenses and patent rights;
- facilities, and other expenses, which include direct and allocated expenses for rent and maintenance of facilities, amortization of equipment and leasehold improvements, insurance and supplies; and
- costs associated with restructuring activities, including clinical trial closing costs and contract termination costs.

The following table summarizes the nature of our research and development expenses for the years ended December 31, 2018, 2017 and 2016:

	YEAR ENDED DECEMBER 31, (in thousands of U.S. dollars)		
	2018	2017	2016
Clinical development	$17,214	$16,875	$11,358
Personnel related	6,277	5,051	3,232
Manufacture and formulation	11,681	7,226	6,799
Preclinical research	4,216	3,896	3,015
Regulatory and quality	220	822	327
Patents and licenses	582	373	2,656
Facility and overhead	805	885	352
Stock-based compensation	794	1,139	643
Total research and development expenses	$41,789	$36,267	$28,382

Research and development expenses for the year ended December 31, 2018 were $41.8 million compared to $36.3 million for the year ended December 31, 2017. Higher expenditure during the year ended December 31, 2018 was primarily driven by restructuring costs incurred on the halting of all development activities relating to rosiptor offset by a reduction in clinical activities related to our Leadership 301 clinical trial of rosiptor in IC/BPS. We incurred $9.0 million of research and development related restructuring costs for the year ended December 31, 2018 compared to none for the year ended December 31, 2017.

Research and development expenses for the year ended December 31, 2017 were $36.3 million compared to $28.4 million for the year ended December 31, 2016. Higher expenditure during the year ended December 31, 2017 was primarily driven by increased clinical activities as we continued our Leadership 301 clinical trial of rosiptor in IC/BPS.

General and Administrative Expenses

General and administrative expenses consist primarily of personnel related costs (including severance, stock-based compensation and travel expenses), facility-related costs, insurance, public company expenses, professional fees for consulting, legal and accounting services, and restructuring costs.

For the year ended December 31, 2018, general and administrative expenses of $15.8 million were higher compared to $14.9 million for the year ended December 31, 2017. The increase was primarily the result of restructuring costs. We incurred $1.1 million of general and administrative related restructuring costs for the year ended December 31, 2018 compared to none for the year ended December 31, 2017.

For the year ended December 31, 2017, general and administrative expenses of $14.9 million were higher compared to $9.3 million for the year ended December 31, 2016. The increase was primarily the result of higher personnel related costs and pre-commercial and market assessment activities.

Other income, net

(in thousands)	DECEMBER 31, 2018	DECEMBER 31, 2017	DECEMBER 31, 2016
Interest income	$ 1,563	$ 998	$ 619
Foreign exchange losses	(75)	(19)	(13)
Change in fair value of derivative liability	—	—	81
Miscellaneous expenses	(445)	(39)	(43)
Total other income, net	$ 1,043	$ 940	$ 644

Interest income increased during the year ended December 31, 2018 compared to 2017 as a result of increase in interest rates offset by a reduction in cash and investment balances during the year ended December 31, 2018. Interest income increased during the year ended December 31, 2017 compared to 2016 as a result of higher cash and investment balances.

Foreign exchange losses for the years ended December 31, 2018, 2017 and 2016 were insignificant as the net effect of change in foreign exchange rates on our foreign currency holdings was offset by the net effect on our foreign currency liabilities.

There was no change in fair value of derivative liability for the years ended December 31, 2018 and 2017, as we did not have any derivative liability as of December 31, 2018 or December 31, 2017. The change in fair value of derivative liability for the year ended December 31, 2016 resulted from the change in fair value of a warrant issued to Silicon Valley Bank, or SVB, under the terms of a loan agreement. The warrant was being re-measured

at each balance sheet date. In September 2016, SVB exercised the warrant on a cashless basis as provided for under the warrant agreement, and as a result we issued 3,001 shares of common stock to SVB as net settlement for the exercise of the warrant.

Miscellaneous expenses during the year ended December 31, 2018 increased in comparison to 2017 as a result of loss on disposal of property and equipment related to the closing of the San Bruno office. Miscellaneous expenses for the years ended December 31, 2017 and 2016 were primarily normal recurring bank charges.

Liquidity and Capital Resources

Since our inception, we have incurred net losses and negative cash flows from our operations and relied upon the issuance of common and preferred stock to fund our operations. Our operating activities used $31.6 million, $44.7 million and $30.2 million of cash flows during the years ended December 31, 2018, 2017 and 2016, respectively. As of December 31, 2018, we had an accumulated deficit of $230.1 million, working capital of $72.5 million, and cash and cash equivalents of $76.9 million. We believe that our existing capital resources will be sufficient to fund our operations for at least the next 12 months.

Cash Flows

The following table summarizes our cash flows for the years ended December 31, 2018, 2017 and 2016:

	YEAR ENDED DECEMBER 31, *(in thousands of U.S. dollars)*		
	2018	**2017**	**2016**
Net cash (used in) provided by:			
Operating activities	$(31,577)	$(44,718)	$(30,226)
Investing activities	55,951	64,011	(48,058)
Financing activities	570	423	71,112
	24,944	19,716	(7,172)
Effect of exchange rate changes	(48)	15	(53)
Net change in cash and cash equivalents	$ 24,896	$ 19,731	$ (7,225)

Net cash used in operating activities

Net cash used in operating activities for the year ended December 31, 2018 decreased compared to the year ended December 31, 2017 due to the recognition of the non-refundable upfront payment received from Astellas in June 2018 partly offset by higher operating expenses. Net cash used in operating activities for the year ended December 31, 2017 increased compared to the year ended December 31, 2016 due to higher operating expenses as described above.

Net cash provided by (used in) investing activities

Net cash provided by investing activities for the years ended December 31, 2018 and 2017 resulted from the maturity of short and long-term investments. Net cash used in investing activities for the year ended December 31, 2016 resulted from the investment of the cash proceeds received from the public offering of common shares in September 2016. Net cash used in investing activities for 2016 included the purchase and sale of short and long-term investments as we invested the proceeds from our financing activities into liquid, high quality securities in accordance to our investment policy, which focuses on the preservation of principal and maintenance of liquidity.

Net cash provided by financing activities

Net cash provided by financing activities for the years ended December 31, 2018 and 2017 resulted from the proceeds from the exercise of stock options. Net cash provided by financing activities for the year ended December 31, 2016 resulted from the public offering of common shares in September 2016 for gross proceeds of $75.4 million, before underwriting discounts, commissions and offering expenses of $4.7 million, and proceeds from the exercise of stock options of $0.4 million.

Operating and Capital Expenditure Requirements

We have not generated product revenue or achieved profitability since our inception and we expect to continue to incur net losses for the foreseeable future. We believe that our existing capital resources will be sufficient to fund our operations for at least the next 12 months and we anticipate that we will need to raise substantial financing in the future to fund our operations. In order to meet these additional cash requirements, we may seek to sell additional equity or convertible debt securities that may result in dilution to our stockholders. If we raise additional funds through the issuance of convertible debt securities, these securities could have rights senior to those of our common stock and could contain covenants that restrict our operations. There can be no assurance that we will be able to obtain additional equity or debt financing on terms acceptable to us, if at all. Our failure to obtain sufficient funds on acceptable terms when needed could have a negative impact on our business, results of operations, financial condition, cash flows and future prospects. Our future capital requirements will depend on many factors, including:

- the number and characteristics of any future product candidates we develop or may acquire;
- the scope, progress, results and costs of researching and developing our product candidates or any future product candidates, and conducting preclinical studies and clinical trials;
- the timing of, and the costs involved in, obtaining regulatory approvals for any future product candidates;
- the cost of manufacturing our future product candidates and any products that may achieve regulatory approval;
- the cost of commercialization activities if any future product candidates are approved for sale, including marketing, sales and distribution costs;
- the timing, receipt and amount of sales of, or royalties on, future approved products, if any;
- our ability to establish and maintain strategic collaborations, licensing or other arrangements and the financial terms of such agreements;
- any product liability or other lawsuits related to our products;
- the expenses needed to attract and retain skilled personnel;
- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims, including litigation costs and the outcome of such litigation.

Please see Item 1A of this Annual Report titled “Risk Factors” for additional risks associated with our substantial capital requirements.

Contractual Obligations and Commitments

The following is a summary of our long-term contractual cash obligations as of December 31, 2018:

(in thousands)	TOTAL	2019	2020	2021
Operating lease obligations[1]	$ 978	$362	$336	$280
Capital lease obligations	15	9	6	—
	$ 993	$371	$342	$280

1. We have a lease agreement for approximately 10,946 square feet of office space in Canada which was effective on November 1, 2016 and expires October 31, 2021, with the option to extend the lease to October 31, 2026. On December 22, 2016, we took over a lease agreement for an additional 2,500 square feet of office space in Canada. The lease for the additional 2,500 square feet expires June 30, 2019. The dollar amounts shown in these columns reflect the U.S. dollar equivalent of the obligations. The amounts were converted to U.S. dollars from CAD dollars using the December 31, 2018 daily closing exchange rate of US$0.73303.

Purchase Commitments

We have no material non-cancelable purchase commitments with contract manufacturers or service providers as we have generally contracted on a cancelable purchase order basis.

Milestone, Royalty-Based and Other Commitments

In August 2009, AQXP Canada entered into an asset purchase agreement with Biolipox AB of Sweden, or Biolipox, for the purchase of all assets, including patent rights and know-how, relating exclusively or principally to a compound library from which we ultimately identified and selected rosiptor. Under the terms of the agreement, AQXP Canada paid Biolipox CAD $50,000 immediately upon closing. An additional CAD $250,000 by way of issuance of our common stock was made in June 2014 upon the first submission to the FDA of an IND for a compound from the acquired class. In November 2016 we made a one-time CAD $3.0 million milestone payment to Biolipox as a result of the advancement of rosiptor into a Phase 3 clinical trial. We will also be required to make certain other milestone payments totaling up to CAD $1.5 million in the aggregate upon the first commercial sale of the first compound covered by the acquired patent rights (which we expect will be triggered by the first commercial sale of rosiptor) in each of the United States, Europe and Japan. There are no royalty payments due under this agreement.

In June 2006, AQXP Canada entered into an exclusive license agreement with the University of British Columbia, or UBC, for certain patent rights and technology relating to small molecule compounds and pharmaceutical compositions as modulators of SHIP1 activity. This agreement was amended and restated in June 2007, and subsequently amended in October 2006, June 2007, September 2008 and April 2010. This agreement will expire on the expiry of the last issued patent covering the licensed technology. The agreement will terminate automatically upon our insolvency or may be terminated by either party for material breach by the other party. The terms of the agreement required AQXP Canada to pay an initial license fee of CAD $50,000 all of which was paid by the issuance of shares of our common stock. We do not currently have any product candidates under development that are covered by the agreement, nor have we sublicensed our rights under the licensed patents. However, if we develop products covered by the UBC technology in the future, we will be required to pay certain development and regulatory milestones up to an aggregate of CAD $2.2 million for the first drug product developed under the license and up to CAD $1.5 million for each subsequent drug product, which may be paid in cash or by issue of our shares. We must also pay UBC low single-digit royalties based on aggregate worldwide net sales of products covered by the licensed patents and a percentage of sublicensing revenue ranging from the low single digits to the mid double digits based on the stage of development at which such sublicense is granted. We are also required to reimburse costs incurred by UBC related to the prosecution and maintenance of the licensed patents, and to pay an annual license maintenance fee in the amount of CAD $1,000.

In May 2005, AQXP Canada entered into an assignment agreement, which was subsequently amended in December 2005 and March 2006, with the British Columbia Cancer Agency (BCCA) and StemCell Technologies, Inc. (STI) for the assignment to AQXP Canada of the 2002 exclusive license agreement between BCCA and STI to certain patents relating to technology relating to SHIP1. The license agreement between AQXP Canada and BCCA was amended and restated in August 2006 and June 2007. This agreement has subsequently been amended in June 2008 to revise the schedule of the technology licensed under this agreement, and further amended in February 2013. Pursuant to this agreement, as amended, BCCA has granted us an exclusive worldwide license to certain of its intellectual property relating to core SHIP1 technology, and screening of compounds for activity using SHIP1, including the C2 binding domain. The agreement is to expire at the later of 20 years from the effective date of the agreement or upon the expiration of the last patent covered by the license. The terms of the assignment agreement among STI, BCCA and AQXP Canada required AQXP Canada to pay an assignment license fee of CAD $150,000 paid in stages beginning May 2005 and ending March 2006. We do not currently have any product candidates under development that are covered by the BCCA license agreement, nor have we sublicensed our rights under the licensed patents. However, if we develop products

covered by the BCCA technology in the future, we will be required to pay BCCA low single-digit royalties based on aggregate worldwide net sales of products covered by the licensed patents, and if we sublicense any rights to the technology, a low double digit percentage of sublicensing revenue. We are also required to reimburse BCCA's patent costs incurred in relation to the licensed technology, and pay an annual maintenance fee in the amount of CAD $5,000. Our license with BCCA will terminate automatically upon our insolvency, and may be terminated by either party for material breach by the other party.

Critical Accounting Policies and Significant Judgments and Estimates

The preparation of these consolidated financial statements in accordance with U.S. GAAP requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses and the disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates and judgments, including those related to accrued liabilities, stock-based compensation and derivative liabilities. We base our estimates on historical experience, known trends and events and various other factors that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are described in the notes to our consolidated financial statements appearing elsewhere in this Annual Report, we believe the following accounting policies to be most critical to the judgments and estimates used in the preparation of our consolidated financial statements.

Research and Development Expenses

Research and development costs are charged to expense as incurred and include, but are not limited to, employee-related expenses, including salaries and benefits, expenses incurred under agreements with CROs and investigative sites that conduct clinical trials and preclinical studies, the cost of acquiring, developing and manufacturing clinical trial materials, cost incurred in relation to purchase of technology licenses and patent rights, facilities and other expenses, which include direct and allocated expenses for rent and maintenance of facilities, and other supplies and costs associated with clinical trials, preclinical activities, and regulatory operations. Restructuring costs associated with the termination of research and development programs and related employees are included in research and development costs.

Development costs are expensed in the period incurred unless we believe a development project meets generally accepted accounting criteria for deferral and amortization. No product development expenditures have been deferred to date. We record costs for certain development activities, such as clinical trials, based on our evaluation of the progress to completion of specific tasks using data such as patient enrollment, clinical site activations, or information provided to us by our vendors on their actual costs incurred. Payments for these activities are based on the terms of the individual arrangements, which may differ from the pattern of costs incurred, and are reflected in the consolidated financial statements as prepaid or accrued liabilities, as the case may be.

Stock-Based Compensation

We measure the cost of services received in exchange for an award of equity instruments based on the grant-date fair value of the award. The cost of such award will be recognized over the period during which services are provided in exchange for the award, generally the vesting period. We account for forfeitures as they occur. All share-based payments to employees are recognized in the consolidated financial statements based upon their respective grant-date fair values.

We estimate the fair value of options granted using the Black-Scholes option pricing model. This approximation uses assumptions regarding a number of inputs that required us to make significant estimates and judgments,

including the expected term of the options. We also make decisions regarding the method of calculating the expected stock price volatility and the risk-free interest rate used in the model. Prior to our initial public offering (IPO) in March 2014 our common stock was not publicly traded. As a result, the expected volatility assumption is based on industry peer information due to insufficient trading history of our common stock. Additionally, because we have no significant history to calculate the expected term, the simplified method calculation is used.

There is inherent uncertainty in our forecasts and projections and, if we had made different assumptions and estimates than those described previously, the amount of our stock-based compensation expense, net loss and net loss per common stock amounts could have been materially different.

License and collaboration agreement

In May 2018, we entered into an exclusive license and collaboration agreement with Astellas in relation to rosiptor. The license and collaboration agreement includes contractual milestones and royalties. We received a non-refundable upfront payment of $25.0 million. Judgments and estimates were used in determining our performance obligations under the agreement, which were: the license and transfer of data, ongoing information sharing with Astellas, and the material right granted to Astellas to acquire rosiptor at our cost. The upfront payment of $25.0 million was allocated between each of the performance obligations.

On June 27, 2018, we announced that our Phase 3 Leadership 301 clinical trial evaluating rosiptor for the treatment of IC/BPS failed to meet its primary endpoint and that all further development activities with rosiptor would be halted. As a result, we have no further performance obligations under the agreement. The $25.0 million upfront payment is nonrefundable and the full amount was recorded as revenue for the year ended December 31, 2018. On September 4, 2018, we received notice from Astellas that it was terminating this exclusive license and collaboration agreement effective March 4, 2019, unless an earlier termination date is agreed to by the parties. On November 8, 2018, the Company entered into an Early Termination Agreement with Astellas to terminate the exclusive license and collaboration agreement between the Company and Astellas effective November 8, 2018.

Recent Accounting Pronouncements

We adopted FASB ASU 2014-09, “Revenue from Contracts with Customers (Topic 606)” effective January 1, 2018. This standard applies to all contracts with customers, except for contracts that are within the scope of other standards, such as leases, insurance, collaboration arrangements and financial instruments. Under Topic 606, an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements subject to the scope of Topic 606, the entity performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. At contract inception, once the contract is determined to be within the scope of Topic 606, we assess the goods or services promised within each contract and identify performance obligations that are distinct. We then recognize as revenue the amount of the transaction price that is allocated to each performance obligation when (or as) the performance obligation is satisfied. The adoption of ASU 2014-09 did not have a material impact on our consolidated financial statements on the date of adoption as we did not have any revenue generating arrangements prior to January 1, 2018. During the year ended December 31, 2018, we recognized revenue earned under a license and collaboration agreement (see License and collaboration agreement above).

We adopted FASB ASU 2016-01 “Financial Instruments-Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities” effective January 1, 2018 which revises an entity’s accounting related to (1) the classification and measurement of investments in equity securities and (2) the presentation of certain fair value changes for financial liabilities measured at fair value. The ASU also amended certain disclosure requirements associated with the fair value of financial instruments. The adoption of this ASU

did not have a material impact on our consolidated financial statements as we do not currently hold any equity securities and we have not elected the fair value option for any of our financial liabilities.

In February 2016, the FASB issued ASU 2016-02 "Leases (Topic 842)" which requires the recognition of right-of-use assets and lease liabilities by lessees for those leases with a lease term of greater than 12 months. Upon the adoption of ASU 2016-02, leases will be recognized and measured using a modified retrospective approach. The modified retrospective approach includes a number of optional practical expedients that companies may elect to apply. ASU 2016-02 is effective for fiscal years and interim periods beginning after December 15, 2018, with early adoption permitted. We will adopt this standard on January 1, 2019 using the optional transition method to recognize a cumulative-effect adjustment to the opening balance of retained deficit. Consequently, comparative periods will continue to be accounted for in accordance with the current lease standard (ASC 840) and the disclosures will be in accordance with ASC 840. We will elect to apply the "package of practical expedients", which permits us not to reassess under ASU 2016-02 our prior conclusions about lease identification, lease classification and initial direct costs and the practical expedient to not separate non-lease components from the associated lease component. The adoption of ASU 2016-02 will result in the recognition of right-of-use assets of $0.2 million and lease liabilities of $0.5 million and derecognition of the deferred rent liability of $0.3 million for our operating leases in the consolidated balance sheets and will not have a material impact to our consolidated statements of operations.

In August 2018, the FASB issued ASU 2018-13 "Fair Value Measurement (Topic 820): Disclosure Framework — Changes to the Disclosure Requirements for Fair Value Measurement" which eliminates, adds and modifies certain disclosure requirements for fair value measurements. The disclosure of the amount of and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy have been eliminated, but disclosures for Level 3 fair value measurements have been modified and added to. ASU 2018-13 is effective for fiscal years and interim periods beginning after December 15, 2019, with early adoption permitted. The adoption of ASU 2018-13 will not have a material impact on our consolidated financial statements.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements as of December 31, 2018.

Segment Reporting

We view our operations and manage our business in one segment, which is the development of novel therapeutics for conditions marked by inflammation, inflammatory pain and blood cancers.

JOBS Act

In April 2012, the Jumpstart Our Business Startups Act ("JOBS Act") was enacted. The JOBS Act contains provisions that, among other things, reduce certain reporting requirements for an "emerging growth company." We are an "emerging growth company," as defined in the JOBS Act and for as long as we remain an "emerging growth company", we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies." These exemptions provide for, but are not limited to, relief from the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, less extensive disclosure obligations regarding executive compensation in our periodic reports and proxy statements, exemptions from the requirements to hold a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved and an extended transition period for complying with new or revised accounting standards. We may take advantage of these reporting exemptions until we are no longer an "emerging growth company." We will remain an emerging growth company until the earlier of (a) December 31, 2019 which is the last day of the fiscal year following the fifth anniversary of the completion of our IPO, (b) when we have total annual gross revenue of at least $1.07 billion, (c) when we are deemed to be a large accelerated filer, which means the market value of our common stock that

is held by non-affiliates exceeds $700 million as of the prior June 30th, or (d) the date on which we have issued more than $1.0 billion in non-convertible debt securities during the prior three-year period.

Section 107 of the JOBS Act provides that an "emerging growth company" can take advantage of an extended transition period for complying with new or revised accounting standards. Thus, an "emerging growth company" can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this extended transition period and, as a result, we will adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for other public companies.

This annual report does not include an attestation report of the company's registered public accounting firm due to rules of the Securities and Exchange Commission for "emerging growth companies". Our independent registered public accounting firm has not performed an evaluation of our internal control over financial reporting during any period in accordance with the provisions of the Sarbanes-Oxley Act. It is possible that, had our independent registered public accounting firm performed an evaluation of our internal control over financial reporting in accordance with the provisions of the Sarbanes-Oxley Act, we might have identified material weaknesses and significant deficiencies in our internal controls. However, for as long as we remain an "emerging growth company" as defined in the JOBS Act, we intend to take advantage of the exemption permitting us not to comply with the requirement that our independent registered public accounting firm provide an attestation on the effectiveness of our internal control over financial reporting.

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

We are exposed to market risks in the ordinary course of our business. The market risk inherent in our financial instruments and in our financial position represents the potential loss arising from adverse changes in interest rates and foreign currency exchange rates.

Our exposure to market risk for changes in interest rates relates primarily to our investment portfolio. The primary objective of our investment activities is to preserve principal and liquidity while maximizing income without significantly increasing risk. We do not enter into investments for trading or speculative purposes. As of December 31, 2018, we had holdings in U.S. government securities of $51.9 million. We have estimated the effect on our investment portfolio of a hypothetical increase in interest rates by one percent (100 basis points) to have an immaterial impact in the fair value of our investment portfolio as of December 31, 2018.

Our exposure to foreign currency risk relates primarily to our Canadian operations, including payments we make to vendors and suppliers. We currently do not hedge against foreign currency risk. If the Canadian dollar strengthens against the U.S. dollar, it can result in higher expenditures and have a negative impact on our financial results. We also maintain bank balances in foreign currencies such as the Canadian dollar and the Euro. If these foreign currencies decline against the U.S. dollar, it can have a negative impact on our financial positions. Foreign exchange losses for the years ended December 31, 2018, 2017 and 2016 were insignificant as the impact of changes in foreign exchange rates on our foreign currency portfolio was offset by its impact on our foreign currency liabilities.

We do not believe that inflation and changing prices had a significant impact on our results of operations for any periods presented herein.

Item 8. Financial Statements and Supplementary Data.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

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Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of
Aquinox Pharmaceuticals, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Aquinox Pharmaceuticals, Inc. and subsidiary (the "Company") as of December 31, 2018 and 2017, the related consolidated statements of operations and comprehensive loss, cash flows and changes in stockholder's equity for each of the three years in the period ended December 31, 2018, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

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

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

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

/s/ Deloitte LLP

Chartered Professional Accountants

Vancouver, Canada

March 7, 2019

We have served as the Company's auditor since 2007.

AQUINOX PHARMACEUTICALS, INC.

Consolidated balance sheets
(In thousands of U.S. dollars, except share amounts)

	DECEMBER 31, 2018	DECEMBER 31, 2017
Assets		
Current assets		
Cash and cash equivalents (Note 3)	$ 76,928	$ 52,032
Short-term investments (Note 13)	—	56,053
Receivables, prepayments and deposits	237	740
Total current assets	77,165	108,825
Property and equipment, net (Note 4)	400	905
Long-term prepayments and deposits	53	599
Total assets	$ 77,618	$ 110,329
Liabilities		
Current liabilities		
Accounts payable and other liabilities (Note 5)	$ 4,627	$ 10,956
Total current liabilities	4,627	10,956
Other liabilities (Note 6)	319	486
Total liabilities	4,946	11,442
Commitments and contingencies (Note 15)		
Stockholders' equity		
Share capital:		
Common stock — $0.000001 par value — authorized, 50,000,000 as of December 31, 2018 and 2017; issued and outstanding, 23,537,368 as of December 31, 2018 (December 31, 2017 — 23,472,430) (Note 7(a))	—	—
Preferred stock — $0.000001 par value — authorized, 5,000,000 as of December 31, 2018 and 2017; nil issued and outstanding as of December 31, 2018 and 2017 (Note 7(b))	—	—
Additional paid-in capital	302,759	297,459
Accumulated deficit	(230,087)	(198,502)
Accumulated other comprehensive loss	—	(70)
Total stockholders' equity	72,672	98,887
Total liabilities and stockholders' equity	$ 77,618	$ 110,329

The accompanying notes form an integral part of these consolidated financial statements

AQUINOX PHARMACEUTICALS, INC.

Consolidated statements of operations and comprehensive loss
(In thousands of U.S. dollars, except per share and share amounts)

	YEARS ENDED DECEMBER 31,		
	2018	**2017**	**2016**
Revenue (Note 8)	$ 25,000	$ —	$ —
Operating expenses			
Research and development (Note 10)	41,789	36,267	28,382
General and administrative (Note 10)	15,835	14,852	9,263
Total operating expenses	57,624	51,119	37,645
Loss from operations	(32,624)	(51,119)	(37,645)
Other income, net			
Interest expense	(4)	(4)	(1)
Other income, net (Note 9)	1,043	940	644
	1,039	936	643
Net loss	$ (31,585)	$ (50,183)	$ (37,002)
Net loss per common stock — basic and diluted (Note 11)	$ (1.34)	$ (2.14)	$ (1.96)
Basic and diluted weighted average number of common stock outstanding (Note 11)	23,519,508	23,450,315	18,893,515
Comprehensive loss:			
Net loss	$ (31,585)	$ (50,183)	$ (37,002)
Other comprehensive income — unrealized gain on available-for-sale securities	70	99	121
Comprehensive loss	$ (31,515)	$ (50,084)	$ (36,881)

The accompanying notes form an integral part of these consolidated financial statements

AQUINOX PHARMACEUTICALS, INC.

Consolidated statements of cash flows
(In thousands of U.S. dollars)

	YEARS ENDED DECEMBER 31,		
	2018	2017	2016
Operating activities			
Net loss	$(31,585)	$(50,183)	$ (37,002)
Non-cash items and reclassifications:			
Change in fair value of derivative liability (Note 9)	—	—	(81)
Stock-based compensation (Note 7(e))	4,698	3,839	1,966
Unrealized foreign exchange loss and others	741	709	185
Changes in operating assets and liabilities:			
Receivable, prepayments and deposits	1,041	(905)	(109)
Accounts payable and other liabilities	(6,472)	1,822	4,815
Cash used in operating activities	(31,577)	(44,718)	(30,226)
Investing activities			
Purchase of investments	—	(5,995)	(106,442)
Proceeds from maturity of investments	56,000	70,500	59,097
Purchase of property and equipment	(49)	(494)	(713)
Cash provided by (used in) investing activities	55,951	64,011	(48,058)
Financing activities			
Proceeds from exercise of stock options	602	438	440
Payment on capital lease obligations	(32)	(15)	(4)
Public offering of common stock (Note 7(c))	—	—	75,368
Public offering costs (Note 7(c))	—	—	(4,692)
Cash provided by financing activities	570	423	71,112
Effect of exchange rate changes on cash and cash equivalents	(48)	15	(53)
Net change in cash and cash equivalents during the year	24,896	19,731	(7,225)
Cash and cash equivalents, beginning of year	52,032	32,301	39,526
Cash and cash equivalents, end of year	$ 76,928	$ 52,032	$ 32,301
Supplemental disclosure of cash flow information:			
Interest paid	$ 4	$ 4	$ 1
Interest received	1,684	1,342	695
Non-cash investing and financing activities:			
Accrued purchase of property & equipment	$ —	$ (77)	$ 77
Accrued offering costs	—	(30)	—
Assets acquired through capital leases	—	—	65
Exercise of warrants on a net settlement basis	—	—	43

The accompanying notes form an integral part of these consolidated financial statements

AQUINOX PHARMACEUTICALS, INC.

Consolidated statements of stockholders' equity
(In thousands of U.S. dollars, except share amounts)

	COMMON STOCK		ADDITIONAL PAID-IN CAPITAL	ACCUMULATED DEFICIT	ACCUMULATED OTHER COMPREHENSIVE LOSS	TOTAL STOCKHOLDERS' EQUITY
	NUMBER	AMOUNT				
Balances, December 31, 2015	17,211,986	$ —	$ 219,986	$ (111,276)	$ (290)	$ 108,420
Issuance of common stock, net of share issuance costs of $4,692 (Note 7(c))	6,152,500	—	70,676	—	—	70,676
Options exercised	55,663	—	440	—	—	440
Exercise of warrants	3,001	—	43	—	—	43
Stock-based compensation	—	—	1,966	—	—	1,966
Other comprehensive income	—	—	—	—	121	121
Net loss	—	—	—	(37,002)	—	(37,002)
Balances, December 31, 2016	23,423,150	—	293,111	(148,278)	(169)	144,664
Cumulative effect of adoption of new accounting standard	—	—	41	(41)	—	—
Balances January 1, 2017	23,423,150	—	293,152	(148,319)	(169)	144,664
Options exercised	49,280	—	468	—	—	468
Stock-based compensation	—	—	3,839	—	—	3,839
Other comprehensive income	—	—	—	—	99	99
Net loss	—	—	—	(50,183)	—	(50,183)
Balances, December 31, 2017	23,472,430	—	297,459	(198,502)	(70)	98,887
Options exercised	64,938	—	602	—	—	602
Stock-based compensation	—	—	4,698	—	—	4,698
Other comprehensive income	—	—	—	—	70	70
Net loss	—	—	—	(31,585)	—	(31,585)
Balances, December 31, 2018	23,537,368	$ —	$ 302,759	$ (230,087)	$ —	$ 72,672

The accompanying notes form an integral part of these consolidated financial statements

AQUINOX PHARMACEUTICALS, INC.

Notes to the consolidated financial statements

1. Nature of operations

Aquinox Pharmaceuticals, Inc. and its subsidiary, Aquinox Pharmaceuticals (Canada) Inc., (consolidated, the "Company") is a pharmaceutical company discovering and developing novel therapeutics for conditions marked by inflammation, inflammatory pain, and blood cancers.

On June 27, 2018, the Company announced that its Phase 3 Leadership 301 clinical trial evaluating once-daily, oral rosiptor for the treatment of interstitial cystitis/bladder pain syndrome (IC/BPS) failed to meet its primary endpoint. As a result, all further development activities with rosiptor were halted. In July 2018, the Company announced a restructuring plan to reduce operating costs and better align the Company's workforce with the needs of its business. On November 6, 2018, the Company's Board of Directors approved further restructuring to reduce operating costs. As of the date of this report, the Company does not have any product candidates in clinical development or identified for clinical development. The Company is currently evaluating strategic options.

Aquinox Pharmaceuticals, Inc. was originally incorporated under the name of Aquinox Pharmaceuticals (USA) Inc. on May 31, 2007 in the State of Delaware, United States. On January 27, 2014, Aquinox Pharmaceuticals (USA) Inc. changed its name to Aquinox Pharmaceuticals, Inc. ("Aquinox USA").

Aquinox Pharmaceuticals (Canada) Inc. ("AQXP Canada") was originally incorporated under the name of 6175813 Canada Inc. on December 26, 2003 under the Canada Business Corporations Act. In May 2014, after a corporate restructuring, the name was changed to Aquinox Pharmaceuticals (Canada) Inc.

The Company operates in Vancouver, British Columbia, Canada.

2. Basis of presentation and summary of significant accounting policies

(a) Basis of presentation

The accompanying consolidated financial statements are presented in United States ("U.S.") dollars and have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"). The financial results are presented on a consolidated basis. All intercompany transactions are eliminated on consolidation.

(b) Capital requirements

The Company operates in a capital intensive business. To finance its operations, the Company is likely to require additional capital. The Company may seek to raise funds through equity or debt financing. There is no assurance that financing will be available to the Company or at terms acceptable to the Company. Failure to obtain sufficient funds on acceptable terms can have a negative impact on the Company's business, results of operations, financial condition, cash flows and future prospects.

(c) Foreign currency translation and transactions

The functional currency of the Company and its subsidiary is the U.S. dollar. Monetary assets and liabilities of the Company's operations denominated in a currency other than the U.S. dollar are re-measured into U.S. dollars at the exchange rate prevailing as at the balance sheet date. Non-monetary assets and liabilities acquired in a currency other than U.S. dollars are translated at historical exchange rates prevailing at each transaction date.

Income and expenses are translated at the exchange rates prevailing at each transaction date, with the exception of amortization which is translated at historical exchange rates. Exchange gains and losses on translation are included in the consolidated statements of operations and comprehensive loss.

(d) Use of estimates and assumptions

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of expenses during the reporting period. Significant areas requiring management estimates include valuation of stock options, amortization and depreciation, accrual of expenses, valuation allowance for deferred income taxes, and contingencies. Actual results could differ from those estimates.

(e) Cash and cash equivalents

All highly liquid investments with maturities of three months or less at the date of acquisition are considered to be cash equivalents.

(f) Short-term investments

Short-term investments consist of bank term deposits and U.S. government securities with initial maturities of less than a year. Short-term investments are classified as available-for-sale and carried at their estimated fair value with unrealized gains and losses recorded as a component of other comprehensive loss. Realized gains and losses are recorded in net loss. The Company periodically reviews its investments for impairment and when a decline in market value is deemed to be other than temporary, the loss is recognized in net loss.

(g) Property and equipment

Property and equipment are recorded at cost and are amortized using the straight-line basis over a range of three to five years.

Expenditures for improvements to the Company's office spaces are capitalized and expenditures for maintenance and repairs are expensed as incurred. Tenant improvement allowances and rent holidays are included in deferred rent and recognized as a reduction in deferred rent over the term of the lease. Leasehold improvements are amortized over the lesser of useful life and term of the lease.

The Company reviews the carrying value of property and equipment for impairment whenever events and circumstances indicate that the carrying value of an asset may not be recoverable from the estimated future cash flows expected to result from its use and eventual disposition. In cases where undiscounted expected future cash flows are less than the carrying value, an impairment loss is recognized equal to an amount by which the carrying value exceeds the fair value of assets. The factors considered by management in performing this assessment include current operating results, trends and prospects, the manner in which the property is used, and the effects of obsolescence, demand, competition, and other economic factors. Based on management's assessment there were no indicators of impairment of property and equipment as at December 31, 2018 and 2017.

(h) Clinical trial accruals

As part of the process of preparing its consolidated financial statements, the Company is required to estimate expenses resulting from its obligations under contracts with vendors, consultants and clinical site agreements in connection with conducting clinical trials. The financial terms of these contracts are subject to negotiations which vary contract to contract and may result in payment flows that do not match the periods over which materials or

services are provided to the Company under such contracts. The Company reflects the appropriate clinical trial expenses in the consolidated financial statements by matching those expenses with the period in which services and efforts are expended. The Company accounts for these expenses according to the progress of the trial as measured by patient progression and the timing of various aspects of the trial.

During the course of a clinical trial, the Company adjusts the rate of clinical trial expense recognition if actual results differ from estimates. The Company prepares estimates of accrued expenses as of each balance sheet date in the consolidated financial statements based on facts and circumstances known at that time. Although the Company does not expect the estimates to be materially different from amounts actually incurred, the Company's understanding of the status and timing of services performed relative to the actual status and timing of services performed may vary and may result in the Company reporting amounts that are too high or too low for any particular period. The Company's clinical trial accruals are dependent upon the timely and accurate reporting of contract research organizations and other third-party vendors.

(i) Taxes

The Company accounts for income taxes using ASC 740, Income Taxes which is an asset and liability approach that requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in the Company's consolidated financial statements or tax returns. In estimating future tax consequences, ASC 740 generally considers all expected future events other than enactments of and changes in the tax law or rates. The measurement of deferred tax assets is reduced, if necessary, by the extent of the valuation allowance. ASC 740 clarifies the criteria that must be met prior to recognition of the financial statement benefit of a position taken in a tax return. ASC 740 provides a benefit recognition model with a two-step approach consisting of a "more-likely-than-not" recognition criteria, and a measurement attribute that measures a given tax position as the largest amount of tax benefits that are more than 50% likely of being realized upon ultimate settlement. ASC 740 also requires the recognition of liabilities created by differences between tax positions taken in a tax return and amounts recognized in the consolidated financial statements.

Investment tax credits relating to scientific research and experimental development are accounted for as a reduction in operating expenses. To the extent there is reasonable assurance the credits will be realized, they are recorded in the period the related expenditure is made. If investment tax credit amounts subsequently received are less or more than originally recorded, the difference is treated as a change in estimate.

(j) Revenue recognition

The Company adopted the Financial Accounting Standards Board, or FASB, issued ASU 2014-09, "Revenue from Contracts with Customers (Topic 606)" effective January 1, 2018. During the second quarter of 2018, the Company entered into a license and collaboration agreement which is under the scope of Topic 606. The Company's only source of revenue is comprised of amounts earned under this license and collaboration agreement. (See Note 2 (r) Recently issued and recently adopted accounting standards and Note 8. License and collaboration agreement for additional information.)

(k) Research and development costs

Research and development costs are charged to expense as incurred and include items such as: employee related expenses, including salaries and benefits, expenses incurred under agreements with contract research organizations and investigative sites that conduct clinical trials and preclinical studies, the cost of acquiring, developing and manufacturing clinical trial materials, facilities, and other expenses, which include direct and allocated expenses for rent and maintenance of facilities, and other supplies and costs associated with clinical trials, preclinical activities, and regulatory operations. Restructuring costs associated with the termination of research and development programs and related employees are included in research and development costs.

Development costs are expensed in the period incurred unless management believes a development project meets generally accepted accounting criteria for deferral and amortization. No product development expenditures have been deferred to date. The Company records costs for certain development activities, such as clinical trials, based on management's evaluation of the progress to completion of specific tasks using data such as patient enrollment, clinical site activations, or information provided to the Company by vendors on their actual costs incurred. Payments for these activities are based on the terms of the individual arrangements, which may differ from the pattern of costs incurred, and are reflected in the consolidated financial statements as prepaid or accrued expense.

(l) Accounting for stock-based compensation

The Company measures the cost of services received in exchange for an award of equity instruments based on the grant-date fair value of the award. The cost of such award will be recognized over the period during which services are provided in exchange for the award, generally the vesting period. The Company accounts for forfeitures as they occur. All share-based payments to employees are recognized in the consolidated financial statements based upon their respective grant date fair values.

The Company estimates the fair value of options granted using the Black-Scholes option pricing model. This approximation uses assumptions regarding a number of inputs that requires management to make significant estimates and judgments. Prior to the completion of the Company's initial public offering (IPO) in March 2014, the Company's common stock was not publicly traded. As a result, the expected volatility assumption is based on industry peer information due to insufficient trading history of the Company's common stock. Additionally, because the Company has no significant history to calculate the expected term, the simplified method calculation is used.

(m) Restructuring costs

The Company accounts for restructuring costs in accordance with ASC 420, Exit or Disposal Cost Obligations. ASC 420 specifies that a liability for a cost associated with an exit or disposal activity be recognized when the liability is incurred, except for a liability where employees are required to render service until they are terminated in order to receive termination benefits and will be retained to render service beyond the minimum retention period. A liability for such one-time termination benefits shall be measured initially at the communication date based on the fair value of the liability as of the termination date and recognized ratably over the future service period.

The charges that the Company expects to incur in connection with the restructuring are subject to a number of assumptions, and actual results may differ materially. The Company may also incur additional costs not currently contemplated due to events that may occur as a result of, or that are associated with, the restructuring plan.

(n) Segment reporting

The Company operates in one segment, the development of therapeutics for conditions marked by inflammation, inflammatory pain and blood cancers. The Company has significant Canadian operations but its assets are mostly held in the United States, comprising primarily of cash and cash equivalents and short-term investments of $52,247 as of December 31, 2018 (December 31, 2017 — $96,230), with an immaterial amount of long-lived assets in Canada.

(o) Net loss per common stock

Basic net loss per common stock is computed by dividing net loss by the weighted-average number of common stock outstanding during the period. Diluted net loss per common stock is determined using the weighted-average number of common stock outstanding during the period, adjusted for the dilutive effect of common stock equivalents, consisting of shares that might be issued upon exercise of common stock options. In periods where losses are reported, the weighted-average number of common stock outstanding excludes common stock equivalents because their inclusion would be anti-dilutive.

(p) Fair value of financial instruments

ASC 820, Fair Value Measurements requires disclosures about transfers into and out of Levels 1 and 2 and separate disclosures about purchases, sales, issuances, and settlements relating to Level 3 measurements. It also clarifies existing fair value disclosures regarding the level of disaggregation and the inputs and valuation techniques used to measure fair value. ASC 820 defines fair value as the amounts that would be received upon sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (exit price). The fair value of the Company's financial instruments are determined according to a fair value hierarchy that prioritizes the inputs and assumptions used, and the valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the hierarchy are as follows:

Level 1 — Quoted prices in active markets for identical assets or liabilities.

Level 2 — Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 — Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

(q) Concentration of credit risk

Financial instruments, which potentially subject the Company to significant concentrations of credit risk, consist primarily of cash and cash equivalents and short-term investments. Cash, cash equivalents and investments are invested in accordance with the Company's investment policy. The primary objective for the Company's investment portfolio is the preservation of capital and maintenance of liquidity and includes guidelines on the quality of financial instruments and defines allowable investments that the Company believes minimizes the exposure to concentration of credit risk.

(r) Recently issued and recently adopted accounting standards

The Company adopted FASB ASU 2014-09, "Revenue from Contracts with Customers (Topic 606)" effective January 1, 2018. This standard applies to all contracts with customers, except for contracts that are within the scope of other standards, such as leases, insurance, collaboration arrangements and financial instruments. Under Topic 606, an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements subject to the scope of Topic 606, the entity performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. At contract inception, once the contract is determined to be within the scope of Topic 606, the Company assesses the goods or services promised within each contract and identifies performance obligations that are distinct. The Company then recognizes as revenue the amount of the transaction price that is allocated to each performance obligation when (or as) the performance obligation is satisfied. The adoption of ASU 2014-09 did not have a material impact on the Company's consolidated financial statements on the date of adoption as the Company did not have any revenue generating arrangements prior to January 1, 2018. During the year ended December 31, 2018, the Company recognized revenue earned under a license and collaboration agreement.

The Company adopted FASB ASU 2016-01 "Financial Instruments-Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities" effective January 1, 2018 which revises an entity's accounting related to (1) the classification and measurement of investments in equity securities and (2) the

presentation of certain fair value changes for financial liabilities measured at fair value. The ASU also amended certain disclosure requirements associated with the fair value of financial instruments. The adoption of this ASU did not have a material impact on the Company's consolidated financial statements as the Company does not currently hold any equity securities and the Company has not elected the fair value option for any of our financial liabilities.

In February 2016, the FASB issued ASU 2016-02 "Leases (Topic 842)" which requires the recognition of right-of-use assets and lease liabilities by lessees for those leases with a lease term of greater than 12 months. Upon the adoption of ASU 2016-02, leases will be recognized and measured using a modified retrospective approach. The modified retrospective approach includes a number of optional practical expedients that companies may elect to apply. ASU 2016-02 is effective for fiscal years and interim periods beginning after December 15, 2018, with early adoption permitted. The Company will adopt this standard on January 1, 2019 using the optional transition method to recognize a cumulative-effect adjustment to the opening balance of retained deficit. Consequently, comparative periods will continue to be accounted for in accordance with the current lease standard (Topic 840) and the disclosures will be in accordance with ASC 840. The Company will elect to apply the "package of practical expedients", which permits it not to reassess under ASU 2016-02 its previous conclusions about lease identification, lease classification and initial direct costs and the practical expedient to not separate non-lease components from the associated lease component. The adoption of ASU 2016-02 will result in the recognition of right-of-use assets of $0.2 million and lease liabilities of $0.5 million and derecognition of the deferred rent liability of $0.3 million for the Company's operating leases in the consolidated balance sheets and will not have a material impact to the Company's consolidated statements of operations.

In August 2018, the FASB issued ASU 2018-13 "Fair Value Measurement (Topic 820): Disclosure Framework — Changes to the Disclosure Requirements for Fair Value Measurement" which eliminates, adds and modifies certain disclosure requirements for fair value measurements. The disclosure of the amount of and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy have been eliminated, but disclosures for Level 3 fair value measurements have been modified and added to. ASU 2018-13 is effective for fiscal years and interim periods beginning after December 15, 2019, with early adoption permitted. The adoption of ASU 2018-13 will not have a material impact on the Company's consolidated financial statements.

(s) Risks and uncertainties

The Company is subject to numerous risks and uncertainties. These risks, among others, included the following:

- the Company has no source of recurring revenue, has an accumulated deficit of $230.1 million as of December 31, 2018, may never become profitable and may incur substantial and increasing net losses for the foreseeable future as it continues its research and development programs;
- the Company is likely to require additional capital to finance its operations which may not be available to it on acceptable terms, or at all;
- the Company's success is primarily dependent on the successful development, regulatory approval and commercialization of drug product candidates;
- in June 2018, the Company announced that its Phase 3 Leadership 301 clinical trial evaluating its lead product candidate, rosiptor, for the treatment of IC/BPS failed to meet its primary endpoint and all further development activities with rosiptor were halted; the Company may be unable to identify or acquire another lead product candidate to replace rosiptor;
- the Company is subject to regulatory approval processes that are lengthy, time consuming and inherently unpredictable; the Company may not be able to obtain approval for any drug product candidates from the U.S. Food and Drug Administration, or FDA, or foreign regulatory authorities;
- the Company's intellectual property rights may be subject to claims by third parties and can be difficult and costly to protect;

- the Company may not be able to recruit or retain key employees, including its senior management team;
- the Company depends on the performance of third parties, including contract research organizations and third-party manufacturers; and
- the Company faces competition from other pharmaceutical and biotechnology companies, academic institutions, governmental agencies, and public and private research institutions, among others.

3. Cash and cash equivalents

(in thousands)	DECEMBER 31, 2018	DECEMBER 31, 2017
Cash	$ 25,061	$ 12,583
Cash equivalents	51,867	39,449
	$ 76,928	$ 52,032

4. Property and equipment

	DECEMBER 31, 2018		
(in thousands)	COST	ACCUMULATED AMORTIZATION	NET BOOK VALUE
Leasehold improvements	$ 490	$ 248	$ 242
Office furniture, equipment and systems	353	195	158
	$ 843	$ 443	$ 400

	DECEMBER 31, 2017		
(in thousands)	COST	ACCUMULATED AMORTIZATION	NET BOOK VALUE
Leasehold improvements	$ 715	$ 259	$ 456
Office furniture, equipment and systems	725	276	449
	$1,440	$ 535	$ 905

5. Accounts payable and other liabilities

(in thousands)	DECEMBER 31, 2018	DECEMBER 31, 2017
Trade accounts payable	$ 702	$ 6,016
Accrued clinical/preclinical expenses	3,655	2,667
Accrued compensation and vacation	21	1,553
Other accrued liabilities	249	720
	$ 4,627	$ 10,956

6. Other liabilities

(in thousands)	DECEMBER 31, 2018	DECEMBER 31, 2017
Deferred rent liability	$ 313	$ 453
Capital lease obligations	6	33
	$ 319	$ 486

7. Stockholders' equity

(a) Common stock

Aquinox Pharmaceuticals, Inc. is authorized to issue 50,000,000 shares of common stock with a par value of $0.000001 per share (December 31, 2017 — 50,000,000). As of December 31, 2018, total number of shares of common stock issued and outstanding was 23,537,368 (December 31, 2017 — 23,472,430).

(b) Preferred stock

Aquinox Pharmaceuticals, Inc. is authorized to issue 5,000,000 shares of preferred stock with a par value of $0.000001 per share (December 31, 2017 — 5,000,000). As of December 31, 2018 and December 31, 2017, no shares of preferred stock were issued or outstanding.

(c) Public offerings

On September 23, 2016, the Company completed an underwritten public offering of 6,152,500 shares of its common stock at a price to the public of $12.25 per share. The aggregate net proceeds received by the Company from the offering, net of underwriting discounts and commissions and offering costs of approximately $4.7 million, were $70.7 million.

(d) Stock option plan

On January 27, 2014, the Company's stockholders approved the 2014 Equity Incentive Plan ("2014 Plan"). The 2014 Plan became effective on the date of the prospectus for the IPO, March 6, 2014. The 2014 Plan is the successor to and continuation of the Joint Canadian Stock Option Plan (the "2006 Plan"). No further grants will be made under the 2006 Plan. The 2014 Plan provides for the grant of stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance stock awards, performance cash awards, and other forms of equity awards to employees, directors, and consultants.

As of December 31, 2018, the maximum number of shares of common stock that may be issued under the 2014 Plan was 3,746,778. The number of shares of common stock reserved for issuance under the 2014 Plan will increase by the number of shares subject to stock options granted under the 2006 Plan that would have otherwise returned to the 2006 Plan, such as upon the expiration or termination of a stock award prior to vesting. As of December 31, 2018, there were 306,894 shares subject to stock options granted under the 2006 Plan. Additionally, the number of shares of common stock reserved for issuance under the 2014 Plan will automatically increase on January 1 of each year for a period of up to 10 years, beginning on January 1, 2015 and ending on and including January 1, 2024, by 4% of the total number of shares of capital stock outstanding on December 31 of the preceding calendar year, or a lesser number of shares determined by the board of directors.

At December 31, 2018, the number of shares available to be granted under the 2014 Plan was 1,156,378 (December 31, 2017 — 1,110,546).

Stock option transactions and the number of stock options outstanding are summarized below:

	NUMBER OF SHARES	WEIGHTED AVERAGE EXERCISE PRICE	WEIGHTED AVERAGE REMAINING CONTRACTUAL LIFE (IN YEARS)	AGGREGATE INTRINSIC VALUE (IN THOUSANDS)
Outstanding at December 31, 2017	2,069,167	$ 12.18	7.76	$ 3,187
Options granted	2,056,640	9.09		
Options exercised	(64,938)	9.28		
Options expired	(520)	10.56		
Options forfeited	(1,163,055)	14.70		
Outstanding at December 31, 2018	2,897,294	$ 9.04	7.96	$ —
Exercisable as of December 31, 2018	1,202,066	$ 11.03	6.13	$ —

During the year ended December 31, 2018, the Company granted 1,951,640 stock options to employees and 105,000 stock options to non-employee directors. The stock options granted to employees during the year ended December 31, 2018 have exercise prices per share ranging from $2.61 to $16.55 and vest 25% one year after the beginning of the vesting period and thereafter ratably each month over the following thirty-six months. In the event of a change in control, the unvested options of the August and November 2018 grants will vest immediately if the employee has been terminated without cause within twelve months prior to the change in control or if within twelve months of the change in control the employee is terminated without cause. If a change in control does not occur within the twelve months prior to an employee being terminated without cause, the options will continue to vest until the earlier of the change in control or one year from the date of being terminated without cause. The stock options granted to non-employee directors during the year ended December 31, 2018 have an exercise price per share of $13.10 and have a vesting period of one year in equal monthly installments from the beginning of the vesting period. All stock options under the 2014 Plan are subject to a 10-year expiration period.

During the year ended December 31, 2018, 64,938 shares of common stock were issued upon exercise of options with an aggregate intrinsic value of $0.3 million.

(e) Stock-based compensation

The fair value of stock options granted is estimated using the Black-Scholes option pricing model with the following weighted average assumptions:

	YEARS ENDED DECEMBER 31,		
	2018	2017	2016
Expected volatility	80%	84%	82%
Expected dividends	0%	0%	0%
Expected terms (years)	6.00	6.00	6.00
Risk free rate	2.80%	1.90%	1.24%
Weighted average grant-date fair value of stock options	$ 6.24	$ 11.85	$ 6.11

Stock options are granted with exercise prices as determined by the Board of Directors at the date of grant. The expected term represents the period that the Company's stock-based awards are expected to be outstanding. As prior to the completion of the IPO in March 2014, the Company was a private company, the Company does not have sufficient historical experience for determining the expected term of the stock option awards granted. The Company has based its expected term for awards issued to employees on the simplified method, which represents the average period from vesting to the expiration of the stock option. In addition, the Company does not have sufficient trading history for the Company's common stock, and therefore, the expected stock price volatility for

the Company's common stock was estimated by taking the average historical price volatility for industry peers. The Company has never declared or paid any cash dividends to common stockholders and does not presently plan to pay cash dividends in the foreseeable future. Consequently, the Company used an expected dividend yield of zero. The risk-free interest rate was based on the yields of treasury securities with maturities similar to the expected term of the options for each option group.

The Company amortizes the fair value of the stock options on a straight-line basis over the applicable requisite service periods of the awards, which is generally the vesting period. Stock-based compensation expense charged to operating expenses was $4.7 million, $3.8 million and $2.0 million for the years ended December 31, 2018, 2017 and 2016, respectively. Total unrecognized compensation cost for all stock-based compensation plans was $7.8 million and $10.1 million as of December 31, 2018 and December 31, 2017, respectively, which is expected to be recognized over a weighted-average period of 2.79 years (December 31, 2017 — 2.72 years).

8. License and collaboration agreement

In May 2018, the Company entered into an exclusive license and collaboration agreement with Astellas US LLC, a subsidiary of Astellas Pharma Inc. ("Astellas"). The Company has granted Astellas an exclusive, royalty-bearing license to use, research, develop, manufacture and commercialize the Company's drug candidate, rosiptor, and related compounds for all human diseases and conditions in Japan and certain other countries in the Asia-Pacific region, including major markets such as Taiwan, Indonesia, Malaysia, South Korea, and Australia, but excluding China and India (the "Licensed Territory").

The Company's license and collaboration agreement includes contractual milestones. These consist of development and regulatory milestones (such as the initiation of phase 2b, or phase 3 clinical trials in the primary and other indication), and commercialization milestones (such as product sales in excess of a pre-specified threshold). Astellas is solely responsible for the development, registration and commercialization of the licensed compounds in the Licensed Territory, and the achievement of the milestones is based solely on the collaborators' efforts. Since the Company does not take a substantive role or control the research, development or commercialization of any products generated by Astellas, the Company is not able to reasonably estimate when, if at all, any milestone payments or royalties may be payable to the Company by Astellas. As such, the milestone payments associated with the exclusive license and collaboration agreement involves a substantial degree of uncertainty and risk that they may never be received.

The Company determined that its performance obligations under the agreement are the license and transfer of data, ongoing information sharing with Astellas and the material right granted to Astellas to acquire rosiptor at the Company's cost. The upfront payment of $25.0 million was allocated between each of the performance obligations.

On June 27, 2018, the Company announced the Phase 3 trial of rosiptor failed to meet its primary endpoint and that all further development activities with rosiptor would be halted. As such, the Company will have no further performance obligations under the agreement. On September 4, 2018, Astellas provided notice to the Company that it was terminating the exclusive license and collaboration agreement between the Company and Astellas effective March 4, 2019, unless an earlier termination date is agreed to by the parties. On November 8, 2018, the Company entered into an Early Termination Agreement with Astellas to terminate the exclusive license and collaboration agreement between the Company and Astellas effective November 8, 2018. The $25.0 million upfront payment from Astellas is non-refundable and the full amount was recorded as revenue for the year ended December 31, 2018.

9. Other income, net

(in thousands)	YEARS ENDED DECEMBER 31, 2018	2017	2016
Interest income	$ 1,563	$ 998	$ 619
Foreign exchange losses	(75)	(19)	(13)
Change in fair value of derivative liability	—	—	81
Miscellaneous expenses (Note 10)	(445)	(39)	(43)
	$ 1,043	$ 940	$ 644

10. Restructuring

In July 2018, the Company's Board of Directors approved a restructuring plan to reduce operating costs and better align the Company's workforce with the needs of its business following the June 27, 2018 announcement that its Phase 3 Leadership 301 clinical trial evaluating once-daily, oral rosiptor for the treatment of IC/BPS failed to meet its primary endpoint. The Company has halted all further development activities with rosiptor.

Under the restructuring plan, the Company reduced its workforce by 30 employees (approximately 53% of total employees) and closed its office in San Bruno, California. Affected employees are eligible to receive severance payments and outplacement services. The Company estimates that it will incur aggregate restructuring charges of approximately $9.4 million related to clinical trial closing costs, contract cancellations, closing of its office in San Bruno, severance payments and other employee-related costs. During the year ended December 31, 2018, $5.8 million of the estimated restructuring charges was paid.

The following table shows the total amount expected to be incurred and the liability related to the July 2018 restructuring as at December 31, 2018:

(in thousands)	CLINICAL TRIAL CLOSING COSTS	ONE-TIME EMPLOYEE TERMINATION BENEFITS	CONTRACT TERMINATION COSTS	SAN BRUNO OFFICE CLOSING COSTS	TOTAL EXPENSES
Amounts accrued as at January 1, 2018	$ —	$ —	$ —	$ —	$ —
Charges for the year	5,703	1,879	1,108	465	9,155
Revised estimates during the year	41	2	187	5	235
Total restructuring costs expected to be incurred	5,744	1,881	1,295	470	9,390
Amounts paid during the year	(2,204)	(1,881)	(1,201)	(470)	(5,756)
Amounts accrued at December 31, 2018	$ 3,540	$ —	$ 94	$ —	$ 3,634

On November 6, 2018, the Company's Board of Directors approved an additional restructuring plan to further reduce operating costs. Under the restructuring plan, the Company reduced its workforce by 16 employees, including its Chief Operating Officer, Mr. Lloyd Mackenzie, effective December 31, 2018. Further reduction of staff may occur in 2019 pending corporate development activities. Affected employees are eligible to receive severance payments and outplacement services. The Company incurred restructuring charges of $1.0 million in 2018 related to one-time termination severance payments and other employee-related costs. Substantially all of these charges were paid as at December 31, 2018

The following table shows the total amount expected to be incurred and the liability related to the November 2018 restructuring as at December 31, 2018:

(in thousands)	ONE-TIME EMPLOYEE TERMINATION BENEFITS
Total restructuring costs expected to be incurred	$ 984
Amounts paid during the year	(922)
Amounts accrued at December 31, 2018	$ 62

Restructuring costs of $9.0 million is recorded in research and development expenses, $1.1 million in general and administrative expenses and $0.3 million in miscellaneous expenses. The majority of the amounts accrued will be paid by March 31, 2019.

11. Net loss per common stock

Basic and diluted net loss per common stock is computed by dividing net loss by the weighted average number of common stock outstanding. The Company excluded outstanding stock options to purchase 2,897,294 shares, 2,069,167 shares and 1,378,352 shares for years ended December 31, 2018, 2017 and 2016, respectively, from the computation of basic and diluted net loss per common stock as the effect would have been antidilutive for all periods presented.

12. Income taxes

Income tax recovery varies from the amounts that would be computed by applying the expected Canadian income tax rate (27%) and U.S. income tax rates (27.98%). The combined Canadian and U.S. income tax rates of 27.28% (2017 – 27.89%; 2016 – 27.28%) was applied to loss before income taxes as shown in the following table:

	YEARS ENDED DECEMBER 31,		
	2018	2017	2016
Computed taxes at combined Canadian and U.S. tax rates	(27.3)%	(27.9)%	(27.3)%
Change in tax rate	(0.1)	(3.6)	—
Non-deductible expenses	3.3	2.2	1.8
Research and development credits	(1.6)	(0.9)	(3.5)
Change in valuation allowance	24.8	25.4	28.4
Effect of the U.S. Tax Cuts and Jobs Act	—	4.6	—
Other	0.9	0.2	0.6
Income tax recovery	—	—	—

On December 22, 2017, the U.S. passed into law H.R.1 (originally known as the “Tax Cuts and Jobs Act”), or the Act, which significantly overhaul the U.S. tax system. Significant changes to the Internal Revenue Code include a reduction in the U.S. federal corporate tax rate from 35% to 21%. The Company’s accounting for the provisions of the Act, based on the Company’s understanding of the Act and the latest guidance available, resulted in a $2.3 million reduction in its net deferred income tax assets as of December 31, 2017 to reflect the new statutory tax rate. This reduction to the net deferred income tax assets was fully offset by a corresponding reduction in the valuation allowance.

(in thousands)	YEARS ENDED DECEMBER 31,		
Net loss before taxes:	**2018**	**2017**	**2016**
Canada	$(22,477)	$(43,758)	$(31,737)
U.S.	(9,108)	(6,425)	(5,265)
Total	$(31,585)	$(50,183)	$(37,002)

Deferred income tax assets and liabilities result from the temporary differences between the amount of assets and liabilities recognized for financial statement and income tax purposes. The significant components of the deferred income tax assets are as follows:

(in thousands)	DECEMBER 31, 2018	DECEMBER 31, 2017
Canadian net operating losses	$ 40,252	$ 35,605
U.S. net operating losses	5,588	3,749
Research and development deductions and credits	9,588	8,234
Other	1,797	1,810
Less: valuation allowance	(57,225)	(49,398)
Net deferred income tax assets	$ —	$ —

At December 31, 2018, the Company had Canadian net operating losses carried forward for tax purposes which were available to reduce taxable income of future years of approximately $149.1 million (December 31, 2017 — approximately $131.9 million) expiring commencing in 2025 through 2038, and U.S. net operating losses carried forward for tax purposes which were available to reduce taxable income of future years of approximately $21.8 million (December 31, 2017 — approximately $15.2 million), of which approximately $14.6 million (December 31, 2017 — approximately $8.0 million) arose in California.

The Company also had unclaimed Canadian tax deductions with no expiry for scientific research and experimental development expenditures of approximately $19.7 million at December 31, 2018 (December 31, 2017 — approximately $16.8 million). In addition, at December 31, 2018, the Company had approximately $5.2 million (December 31, 2017 — approximately $4.5 million) of investment tax credits available to offset Canadian federal and provincial taxes payable expiring commencing in 2019 through 2037.

Under ASC 740, the benefit of an uncertain tax position that is more likely than not of being sustained upon audit by the relevant taxing authority must be recognized at the largest amount that is more likely than not to be sustained. No portion of the benefit of an uncertain tax position may be recognized if the position has less than a 50% likelihood of being sustained. The Company currently does not have any unrecognized tax benefits of uncertain tax positions. The Company does not expect any significant increases to its unrecognized tax benefits within twelve months of the reporting date.

The Company currently files income tax returns in the United States and Canada, the jurisdictions in which the Company believes that it is subject to tax. Further, while the statute of limitations in each jurisdiction where an income tax return has been filed generally limits the examination period, as a result of loss carry-forwards, the limitation period for examination generally does not expire until several years after the loss carry-forwards are utilized. Other than routine audits by tax authorities for tax credits and tax refunds that the Company has claimed, the Company is not aware of any other material income tax examination currently in progress by any taxing jurisdiction.

13. Financial instruments

Securities classified as available for sale

The Company has no short-term investments as of December 31, 2018. The Company's short-term investments as of December 31, 2017 consist of available-for-sale securities as follows:

(in thousands) **December 31, 2017**	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Short-term investments:				
U.S. treasury securities	$ 56,123	$ —	$ (70)	$ 56,053
Contractual maturities:				
Due within one year	$ 56,123			$ 56,053

The aggregate estimated fair value of the Company's investments with unrealized losses are as follows:

(in thousands)	Period of continuous unrealized loss			
	12 months or less		Greater than 12 months	
	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses
December 31, 2017				
U.S. treasury securities	$ 15,983	$ (27)	$ 40,070	$ (43)

Fair value of financial instruments

The fair value of the Company's financial instruments are determined according to a fair value hierarchy that prioritizes the inputs and assumptions used, and the valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements).

The determination of a financial instrument's level within the fair value hierarchy is based on an assessment of the lowest level of any input that is significant to the fair value measurement. The Company considers observable data to be market data which is readily available, regularly distributed or updated, reliable and verifiable, not proprietary, and provided by independent sources that are actively involved in the relevant market.

The carrying amounts of certain of the Company's financial instruments including cash, cash equivalents, receivables, accounts payable and other liabilities, approximate their fair values because of their nature and/or short maturities. The Company holds short investments that are classified as available-for-sale securities, which are measured at fair value determined on a recurring basis according to the fair value hierarchy.

The following table presents the fair value of our financial instruments that are measured at fair value on a recurring basis:

(in thousands)	**QUOTED PRICES IN ACTIVE MARKETS FOR IDENTICAL ASSETS (LEVEL 1)**	**OTHER OBSERVABLE INPUTS (LEVEL 2)**	**SIGNIFICANT UN-OBSERVABLE INPUTS (LEVEL 3)**	**TOTAL**
BALANCES — December 31, 2017				
Short-term investments — U.S. treasury securities	$ 56,053	$ —	$ —	$ 56,053
	$ 56,053	$ —	$ —	$ 56,053

The Company did not have any short-term investments as of December 31, 2018.

Level 1 instruments, which include investments that are valued based on quoted market prices in active markets, consisted of U.S. treasury securities.

Level 2 instruments include investments for which all significant inputs are observable. The Company had no Level 2 investments at December 31, 2018 and December 31, 2017.

Level 3 instruments include investments for which significant inputs to the fair value of the assets or liabilities are unobservable and are supported by little or no market activity. The Company had no Level 3 investments at December 31, 2018 and December 31, 2017. There were no transfers between Levels 1, 2, and 3 during the years ended December 31, 2018 and December 31, 2017.

Total gains for securities were $1.0 million, $0.9 million and $0.6 million for the years ending December 31, 2018, 2017 and 2016, respectively.

14. License and patent agreements

The Company has an agreement with Biolipox AB of Sweden for patent rights relating exclusively or principally to a specific class of compounds, which include rosiptor. The terms of the agreement required the Company to pay CAD $50,000 immediately, CAD $250,000 in shares of common stock upon the first submission to the FDA of an Investigational New Drug (IND) for a compound from the acquired class of compounds, and CAD $3.0 million upon the advancement of one of the compounds from the acquired class of compounds into a Phase 3 clinical trial. Certain other milestone payments, totaling CAD $1.5 million are payable upon the first commercial sale following regulatory approval of the first compound in each of the United States, Europe and Japan. There are no royalty payments due under this agreement. In June 2014, the Company issued 19,762 shares of common stock to Biolipox AB as payment for achievement of the milestone related to the first submission to the FDA of an IND for rosiptor. A CAD $3.0 million milestone payment was paid in November 2016 as a result of the advancement of rosiptor into a Phase 3 clinical trial

The Company has an exclusive license agreement with the University of British Columbia for a worldwide license to certain small molecule compounds and pharmaceutical compositions that are modulators of SHIP1 activity. The agreement expires at the earlier of the last expiry of any patent obtained related to the technology or through enactment of one of the termination clauses stipulated in the agreement. The Company paid annual maintenance fees of CAD $1,000 related to this agreement for the year ended December 31, 2018 (December 31, 2017 – CAD $1,000) and have contingent payments totaling up to CAD $2.2 million for the first drug product and CAD $1.5 million for each subsequent drug product plus low single-digit royalties. The Company does not currently have any product candidates under development that are covered by the UBC license agreement.

The Company has an agreement with the British Columbia Cancer Agency and StemCell Technologies, Inc. for the assignment to the Company of certain patents to technology relating to SHIP1 in return for low single-digit royalty payment on product sales or low double-digit percentage of sublicense revenue. The agreement is to expire at the later of 20 years from the effective date of the agreement or upon the expiration of the last patent covered by the license. The Company incurred maintenance fees of CAD $5,000 related to this agreement during the years ended December 31, 2018, 2017 and 2016. The Company does not currently have any product candidates under development that are covered by this agreement.

15. Commitments and contingencies

As at December 31, 2018, the Company has obligations to make future minimum payments with respect to operating leases for office space.

The Company has a lease agreement for approximately 10,946 square feet of office space in Canada which commenced on November 1, 2016 and expires October 31, 2021, with the option to extend the lease to

October 31, 2026. On December 22, 2016, the Company signed a lease agreement for an additional 2,500 square feet of office space in Canada. The lease for the additional 2,500 square feet expires June 30, 2019. In addition to the basic rent, the Company is obligated to pay for taxes, operating costs, utilities, additional services and other amounts. These leases are denominated in Canadian dollars and are included in the table below at their U.S. dollar equivalent.

The lease agreements contain scheduled rent increases, rent holidays and tenant improvement allowance. As such, the Company has recorded a deferred rent liability of $0.3 million as at December 31, 2018.

The minimum lease payments under the non-cancelable operating leases are payable in the following amounts over the following years.

	2019	2020	2021	Total
Operating lease obligations	$362	$336	$280	$978
	$362	$336	$280	$978

During the years ended December 31, 2018, 2017 and 2016, the Company incurred operating lease costs of $0.7 million, $0.7 million and $0.4 million, respectively.

In the ordinary course of business, the Company may be subject from time to time to various proceedings, lawsuits, disputes, or claims. Although the Company cannot predict with assurance the outcome of any litigation, it does not believe there are currently any such actions that, if resolved unfavorable, would have a material impact on the Company's financial condition, results of operations or cash flows.

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

None.

Item 9A. Controls and Procedures.

(a) *Evaluation of disclosure controls and procedures.* Our Chief Executive Officer and our Chief Financial Officer have evaluated our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) prior to the filing of this annual report. Based on that evaluation, they have concluded that, as of the end of the period covered by this annual report, our disclosure controls and procedures were, in design and operation, effective at a reasonable assurance level.

(b) *Changes in internal control over financial reporting.* There have not been any changes in our internal control over financial reporting during the quarter ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

(c) *Management's Report on Internal Control Over Financial Reporting.* Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rule 13a-15(f) under the Securities Exchange Act of 1934, as amended. Our management conducted an evaluation of the effectiveness of our internal control over financial reporting based on the 2013 framework in *Internal Control — Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on its evaluation under the framework in *Internal Control — Integrated Framework,* our management concluded that our internal control over financial reporting was effective as of December 31, 2018.

(d) *Inherent limitation on the effectiveness of internal control.* The effectiveness of any system of internal control over financial reporting, including ours, is subject to inherent limitations, including the exercise of judgment in designing, implementing, operating, and evaluating the controls and procedures, and the inability to eliminate misconduct completely. Accordingly, any system of internal control over financial reporting, including ours, no matter how well designed and operated, can only provide reasonable, not absolute assurances. In addition, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. We intend to continue to monitor and upgrade our internal controls as necessary or appropriate for our business, but cannot assure you that such improvements will be sufficient to provide us with effective internal control over financial reporting

Item 9B. Other Information.

None

PART III

The information required by Part III is omitted from this report because we will file a definitive proxy statement within 120 days after the end of our 2018 fiscal year pursuant to Regulation 14A for our 2019 Annual Meeting of Stockholders, or the 2019 Proxy Statement, and the information to be included in the 2019 Proxy Statement is incorporated herein by reference.

Item 10. Directors, Executive Officers and Corporate Governance.

(1) The information required by this Item concerning our executive officers and our directors and nominees for director, including information with respect to our audit committee and audit committee financial expert, may be found under the section entitled "Proposal No. 1 Election of Directors," "Information Regarding the Board of Directors and Corporate Governance," and "Executive Officers" appearing in the 2019 Proxy Statement. Such information is incorporated herein by reference.

(2) The information required by this Item concerning our code of ethics may be found under the section entitled "Information Regarding the Board of Directors and Corporate Governance" appearing in the 2019 Proxy Statement. Such information is incorporated herein by reference.

(3) The information required by this Item concerning compliance with Section 16(a) of the Securities Exchange Act of 1934 may be found in the section entitled "Section 16(a) Beneficial Ownership Reporting Compliance" appearing in the 2019 Proxy Statement. Such information is incorporated herein by reference.

Item 11. Executive Compensation.

The information required by this Item may be found under the sections entitled "Director Compensation," "Executive Compensation" and "Equity Compensation Plan Information" appearing in the 2019 Proxy Statement. Such information is incorporated herein by reference.

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

(1) The information required by this Item with respect to security ownership of certain beneficial owners and management may be found under the section entitled "Security Ownership of Certain Beneficial Owners and Management" appearing in the 2019 Proxy Statement. Such information is incorporated herein by reference.

(2) The information required by this Item with respect to securities authorized for issuance under our equity compensation plans may be found under the sections entitled "Equity Compensation Plan Information" appearing in the 2019 Proxy Statement. Such information is incorporated herein by reference.

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

(1) The information required by this Item concerning related party transactions may be found under the section entitled "Transactions with Related Persons" appearing in the 2019 Proxy Statement. Such information is incorporated herein by reference.

(2) The information required by this Item concerning director independence may be found under the sections entitled "Information Regarding the Board of Directors and Corporate Governance — Independence of the Board of Directors" and "Information Regarding the Board of Directors and Corporate Governance — Information Regarding Committees of the Board of Directors" appearing in the 2019 Proxy Statement. Such information is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services.

The information required by this Item may be found under the section entitled “Proposal No. 2 Ratification of Appointment of Independent Registered Public Accounting Firm” appearing in the 2019 Proxy Statement. Such information is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a) The following documents are filed as part of this report:

(1) Financial Statements and Report of Independent Registered Public Accounting Firm

(2) Financial Statement Schedules

Financial Statement Schedules have been omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or notes thereto.

(3) Exhibits are incorporated herein by reference or are filed with this report as indicated below (numbered in accordance with Item 601 of Regulation S-K).

(b) Exhibits

The exhibits listed below on the Exhibit Index are filed herewith or are incorporated by reference to exhibits previously filed with the SEC.

EXHIBIT INDEX

		Incorporated by Reference				
Exhibit Number	Description	Form	File No.	Exhibit	Filing Date	Filed Herewith
3.1	Amended and Restated Certificate of Incorporation of Aquinox Pharmaceuticals, Inc.	8-K	001-36327	3.1	March 12, 2014	
3.2	Amended and Restated Bylaws of Aquinox Pharmaceuticals, Inc.	S-1	333-193615	3.6	February 28, 2014	
4.1	Specimen Common Stock Certificate of Aquinox Pharmaceuticals, Inc.	10-Q	001-36327	4.1	May 13, 2014	
4.2	Registration Rights Agreement, dated September 19, 2016, by and between Aquinox Pharmaceuticals, Inc. and the persons listed on Schedule A attached thereto.	8-K	001-36327	10.1	September 20, 2016	
10.1+	Joint Canadian Stock Option Plan.	S-1	333-193615	10.1	January 28, 2014	
10.2+	Forms of Option Agreement for Registrant's Joint Canadian Stock Option Plan.	S-1	333-193615	10.2	January 28, 2014	
10.3+	2014 Equity Incentive Plan	S-1	333-193615	10.3	January 28, 2014	
10.4+	Forms of Option Agreement and Option Grant Notice for Registrant's 2014 Equity Incentive Plan	S-1	333-193615	10.4	January 28, 2014	
10.5+	Form of Executive Employment Agreement (AQXP Canada)	10-Q	001-36327	10.1	November 4, 2014	

Exhibit Number	Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
10.6+	Form of Agreement Regarding Executive Compensation in U.S. dollars	10-K	001-36327	10.6	March 14, 2016	
10.7+	Form of Executive Employment Agreement (AQXP USA)	10-K	001-36327	10.7	March 14, 2016	
10.8	Form of Indemnity Agreement entered into between the Registrant and each of its directors and its executive officers.	S-1	333-193615	10.5	January 28, 2014	
10.9†	Asset Purchase Agreement by and between the Registrant and Biolipox AB, dated August 19, 2009.	S-1	333-193615	10.12	February 28, 2014	
10.10+	Form of Executive Employment Agreement Amendment (AQXP Canada)	10-Q	001-36327	10.1	November 7, 2018	
10.11+	Executive Employment Agreement Amendment for David Main	10-Q	001-36327	10.2	November 7, 2018	
10.15	Office Space Lease between 560677 B.C. Ltd. and Aquinox Pharmaceuticals (Canada), Inc. dated February 5, 2016.	8-K	001-36327	10.1	February 10, 2016	
10.16†	Exclusive License and Collaboration Agreement by and between Aquinox Pharmaceuticals (Canada), Inc. and Astellas US LLC, effective as of May 9, 2018.	10-Q	001-36327	10.1	August 8, 2018	
10.17	Early Termination Agreement by and between Aquinox Pharmaceuticals (Canada), Inc. and Astellas US LLC, effective as of November 8, 2018					X
21.1	List of subsidiaries of the Registrant.	S-1	333-193615	21.1	January 28, 2014	
23.1	Consent of Deloitte LLP, Independent Registered Public Accounting Firm.					X
31.1	Certification of Principal Executive Officer Required Under Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended.					X
31.2	Certification of Principal Financial Officer Required Under Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended.					X
32.1*	Certification of Principal Executive Officer Required Under Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. §1350.					X

Exhibit Number	Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
32.2*	Certification of Principal Financial Officer Required Under Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. §1350.					X
101.INS	Instance Document.					
101.SCH	XBRL Taxonomy Extension Schema Document.					
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.					
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document					
101.LAB	XBRL Taxonomy Extension Label Linkbase Document					
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document					

+ Indicates a management contract or compensatory plan.
† Pursuant to a request for confidential treatment, portions of this exhibit have been redacted from the publicly filed document and have been furnished separately to the Securities and Exchange Commission as required by Rule 24b-2 under the Securities Exchange Act of 1934.
* Document has been furnished, is not deemed filed and is not to be incorporated by reference into any of the Company's filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, irrespective of any general incorporation language contained in any such filing.

Item 16. Form 10-K Summary.

N/A

SIGNATURES

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

Aquinox Pharmaceuticals, Inc.

Date: March 7, 2019

By: /s/ David J. Main
David J. Main
President & Chief Executive Officer
(Principal Executive Officer)

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

Signature	Title	Date
/s/ David J. Main David J. Main	Director, President & Chief Executive Officer (Principal Executive Officer)	March 7, 2019
/s/ Kamran Alam Kamran Alam	Chief Financial Officer (Principal Financial and Accounting Officer)	March 7, 2019
/s/ Gary Bridger Gary Bridger	Director	March 7, 2019
/s/ Daniel Levitt Daniel Levitt	Director	March 7, 2019
/s/ Richard Levy Richard Levy	Director	March 7, 2019
/s/ Kelvin Neu Kelvin Neu	Director	March 7, 2019
/s/ Sean Nolan Sean Nolan	Director	March 7, 2019
/s/ Robert Pelzer Robert Pelzer	Director	March 7, 2019
/s/ Todd Simpson Todd Simpson	Director	March 7, 2019

Exhibit 10.17

Early Termination Agreement

This Early Termination Agreement (this "**Agreement**") is entered into as of this 8th day of November, 2018, is by and between Aquinox Pharmaceuticals (Canada) Inc., a corporation organized and existing under the laws of Canada, with an address at 450-887 Great Northern Way, Vancouver, B.C., Canada V5T 4T5 ("**Aquinox**") and **ASTELLAS US LLC**, a company organized and existing under the laws of Illinois, with an address at 1 Astellas Way, Northbrook, Illinois 60062, U.S.A. ("**Astellas**").

RECITALS

WHEREAS, Aquinox and Astellas entered into that certain Exclusive License and Collaboration Agreement effective as of May 9, 2018 (the "**License Agreement**");

WHEREAS, on September 4, 2018, Astellas delivered to Aquinox a Notice of Termination for the License Agreement, wherein the effective termination date was stated as March 4, 2019 (the "**Termination Date**");

WHEREAS, since the delivery of the Notice of Termination the parties have undertaken appropriate efforts to wind-down the relationship and now expect that any remaining tasks will be completed prior to the Termination Date.

WHEREAS, due to the ability to complete all wind-down efforts in advance of the Termination Date, Aquinox and Astellas mutually desire to terminate the License Agreement on the date of this Agreement as first set forth above (the **"Termination Effective Date**");

NOW, THEREFORE, the Parties hereby agree as follows:

1. Aquinox and Astellas agree to terminate the License Agreement effective as of the Termination Effective Date.
2. Notwithstanding anything set forth in the License Agreement to the contrary, Aquinox and Astellas agree that each party may retain one (1) copy of all Confidential Information (as defined in the License Agreement) received from the other party for the archival purposes only.
3. Each party hereby warrants to the other party that it has destroyed all Confidential Information received from the other party except one (1) copy permitted pursuant to this Agreement.

This Agreement has been executed by the duly authorized representatives of both parties as of the Termination Effective Date

Aquinox Pharmaceuticals (Canada), Inc.

By: /s/ David Main
Name: David Main
Title: President & CEO

Astellas US LLC

By: /s/ Percival Barretto-Ko
Name: Percival Barretto-Ko
Title: President

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statements Nos.333-194490, 333-203179, 333-210172, 333-216572 and 333-223589 on Form S-8 and Nos. 333-203180, 333-208651, 333-215457 and 333-223584 on Form S-3 of our report dated March 7, 2019, relating to the consolidated financial statements of Aquinox Pharmaceuticals, Inc. and subsidiary appearing in this Annual Report on Form 10-K of Aquinox Pharmaceuticals, Inc. for the year ended December 31, 2018.

/s/ Deloitte LLP

Chartered Professional Accountants
Vancouver, Canada
March 7, 2019

Exhibit 31.1

CERTIFICATIONS

I, David J. Main, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: March 7, 2019

/s/ David J. Main
David J. Main
Chief Executive Officer

Exhibit 31.2

CERTIFICATIONS

I, Kamran Alam, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: March 7, 2019

/s/ Kamran Alam
Kamran Alam
Chief Financial Officer

Exhibit 32.1

AQUINOX PHARMACEUTICALS, INC.

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

In connection with the Annual Report of Aquinox Pharmaceuticals, Inc. (the "Company") on Form 10-K for the year ended December 31, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, David J. Main, Chief Executive Officer of the Company, certify, pursuant to Rule 13a-14(b) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

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

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

/s/ David J. Main
David J. Main
Chief Executive Officer

March 7, 2019

This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Aquinox Pharmaceuticals, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.

Exhibit 32.2

AQUINOX PHARMACEUTICALS, INC.

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

In connection with the Annual Report of Aquinox Pharmaceuticals, Inc. (the "Company") on Form 10-K for the year ended December 31, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Kamran Alam, Chief Financial Officer of the Company, certify, pursuant to Rule 13a-14(b) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

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

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

/s/ Kamran Alam
Kamran Alam
Chief Financial Officer

March 7, 2019

This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Aquinox Pharmaceuticals, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.