

PROSPECTUS

**\$25,000,000**



**Common Stock**

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We have entered into a certain Sales Agreement, or sales agreement, with Cowen and Company, LLC, or Cowen, relating to shares of our common stock offered by this prospectus. In accordance with the terms of the sales agreement, we may offer and sell shares of our common stock having an aggregate offering price of up to \$25 million from time to time through Cowen.

Our common stock is listed on the NASDAQ Global Market under the symbol "AQXP." On March 27, 2015, the last reported sale price of our common stock on the NASDAQ Global Market was \$8.10 per share.

Sales of our common stock, if any, under this prospectus may be made in sales deemed to be "at the market offerings" as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, or the Securities Act, including sales made directly on or through the NASDAQ Global Market, the existing trading market for our common stock, sales made to or through a market maker other than on an exchange or otherwise, in negotiated transactions at market prices prevailing at the time of sale or at prices related to such prevailing market prices, and/or any other method permitted by law. Cowen is not required to sell any specific number or dollar amount of securities, but will act as a sales agent using commercially reasonable efforts consistent with its normal trading and sales practices, on mutually agreed terms between Cowen and us. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

The compensation to Cowen for sales of common stock sold pursuant to the sales agreement will be an amount equal to 3% of the gross proceeds of any shares of common stock sold under the sales agreement. In connection with the sale of the common stock on our behalf, Cowen will be deemed to be an "underwriter" within the meaning of the Securities Act and the compensation of Cowen will be deemed to be underwriting commissions or discounts. We have also agreed to provide indemnification and contribution to Cowen with respect to certain liabilities, including liabilities under the Securities Act or the Securities Exchange Act of 1934, as amended, or the Exchange Act.

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**Investing in our common stock involves a high degree of risk. Please read the information contained in and incorporated by reference under the heading "[Risk Factors](#)" on page 4 of this prospectus, and under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus.**

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

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**Cowen and Company**

**The date of this prospectus is April 9, 2015.**

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You should rely only on the information contained in, or incorporated by reference into, this prospectus and in any free writing prospectus that we may authorize for use in connection with this offering. We have not, and Cowen has not, authorized any other person to provide you with different information. We are not, and Cowen is not, making an offer to sell or seeking an offer to buy common stock under this prospectus in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus, the documents incorporated by reference into this prospectus, and in any free writing prospectus that we may authorize for use in connection with this offering, is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

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### ABOUT THIS PROSPECTUS

This prospectus relates to the offering of our common stock. Before buying any of the common stock that we are offering, we urge you to carefully read this prospectus, together with the information incorporated by reference as described under the headings “Where You Can Find More Information” and “Incorporation of Certain Information by Reference” in this prospectus, and any free writing prospectus or prospectus supplement that we have authorized for use in connection with this offering. These documents contain important information that you should consider when making your investment decision.

This prospectus describes the terms of this offering of common stock and also adds to and updates information contained in the documents incorporated by reference into this prospectus. To the extent there is a conflict between the information contained in this prospectus, on the one hand, and the information contained in any document incorporated by reference into this prospectus that was filed with the Securities and Exchange Commission, or SEC, before the date of this prospectus, on the other hand, you should rely on the information in this prospectus. If any statement in one of these documents is inconsistent with a statement in another document having a later date — for example, a document incorporated by reference into this prospectus — the statement in the document having the later date modifies or supersedes the earlier statement.

Except as otherwise indicated herein or as the context otherwise requires, references in this prospectus to “Aquinox,” “the company,” “we,” “us,” “our” and similar references refer to Aquinox Pharmaceuticals, Inc., a corporation under the laws of the State of Delaware, which we refer to in this prospectus as Aquinox USA, and Aquinox Pharmaceuticals (Canada) Inc., a corporation under the Canada Business Corporations Act, which we refer to in this prospectus as AQXP Canada.

This prospectus and the information incorporated herein by reference include trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus or any related free writing prospectus are the property of their respective owners.

## PROSPECTUS SUMMARY

*The following summary highlights information contained elsewhere in this prospectus or incorporated by reference herein and does not contain all the information that may be important to purchasers of our common stock. For a more complete understanding of our company and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus, including the information incorporated by reference into this prospectus, and the information included in any free writing prospectus that we may authorize for use in connection with this offering, including the information referred to under the heading "Risk Factors" in this prospectus on page 4 and in the documents incorporated by reference into this prospectus.*

### **Aquinox Pharmaceuticals, Inc.**

We are a clinical-stage pharmaceutical company discovering and developing targeted therapeutics in disease areas of inflammation and immuno-oncology. Our primary focus is anti-inflammatory product candidates targeting SHIP1, which is a key regulator of an important cellular signaling pathway in immune cells, known as the PI3K pathway. Our lead product candidate, AQX-1125, is a small molecule activator of SHIP1 suitable for oral, once daily dosing. Having successfully completed multiple preclinical studies and clinical trials with AQX-1125, we are now advancing through Phase 2 development in several initial indications. We have successfully completed three clinical trials with AQX-1125 dosed as a once daily oral product, with over 100 subjects having received AQX-1125 to date. We are currently investigating AQX-1125 in three Phase 2 clinical trials, one in Chronic Obstructive Pulmonary Disease (COPD), one in Bladder Pain Syndrome/Interstitial Cystitis (BPS/IC), and one in Atopic Dermatitis (AD). COPD, BPS/IC and severe forms of AD are debilitating chronic inflammatory diseases affecting millions of people worldwide. For AQX-1125, we retain full worldwide rights and hold patents with terms through at least 2024.

We use a proprietary screening approach to discover new drug candidates that selectively target SHIP1 to modulate activated immune cells while minimizing their toxicity to normal cells. Our intellectual property covers SHIP1 as a target, the C2 binding domain for screening and the composition of matter for our compounds.

We have an extensive chemical library and several candidate lead compounds that target SHIP1. These compounds have both similar and distinct properties from AQX-1125. We believe AQX-1125 is the only SHIP1 activator currently in clinical trials and that no SHIP1 activator has yet received marketing approval as a treatment for disease in humans.

We commenced operations as 6175813 Canada Inc., a corporation formed in December 2003 under the Canada Business Corporations Act. We subsequently changed the name of this corporation in May 2014 to Aquinox Pharmaceuticals (Canada) Inc., which we refer to in this prospectus as AQXP Canada. 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., which we refer to in this prospectus as Aquinox USA. AQXP Canada is now 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](http://www.aqxpharma.com). The information contained in, or that can be accessed through, our website is not part of this prospectus.

## THE OFFERING

Common Stock Offered By Us	Shares of our common stock having an aggregate offering price of up to \$25 million.
Manner of Offering	“At the market offering” that may be made from time to time through our sales agent, Cowen. See “Plan of Distribution” on page 11.
Use of proceeds	We currently intend to use the net proceeds from this offering primarily for research, development and manufacturing of product candidates, and for other general corporate purposes. See “Use of Proceeds” on page 6 of this prospectus.
Risk factors	Investing in our common stock involves significant risks. Please read the information contained in and incorporated by reference under the heading “Risk Factors” on page 4 of this prospectus and under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus, together with the other information included in or incorporated by reference into this prospectus, before deciding whether to invest in our common stock.
NASDAQ Global Market Symbol	AQXP

## RISK FACTORS

Investing in our common stock involves a high degree of risk. Before deciding whether to invest in our common stock, you should consider carefully the risks and uncertainties described below and under the heading “Risk Factors” contained in our Annual Report on Form 10-K for the year ended December 31, 2014, which are incorporated by reference into this prospectus in their entirety, as updated or superseded by the risks and uncertainties described under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus, together with the other information in this prospectus, the documents incorporated by reference and any free writing prospectus that we may authorize for use in connection with this offering. The risks described in these documents are not the only ones we face, but those that we consider to be material. There may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that could have material adverse effects on our future results. Past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. Please also read carefully the section below entitled “Forward-Looking Statements.”

### **Additional Risks Related to This Offering**

***Management will have broad discretion as to the use of the proceeds from this offering, and may not use the proceeds effectively.***

Because we have not designated the amount of net proceeds from this offering to be used for any particular purpose, our management will have broad discretion as to the application of the net proceeds from this offering and could use them for purposes other than those contemplated at the time of the offering. Our management may use the net proceeds for corporate purposes that may not improve our financial condition or market value.

***You will experience immediate and substantial dilution.***

The offering price per share in this offering may exceed the net tangible book value per share of our common stock outstanding prior to this offering. Assuming that an aggregate of 3,086,419 shares of our common stock are sold at a price of \$8.10 per share, the last reported sale price of our common stock on the NASDAQ Global Market on March 27, 2015, for aggregate gross proceeds of \$25 million, and after deducting commissions and estimated offering expenses payable by us, you will experience immediate dilution of \$3.72 per share, representing the difference between our as adjusted net tangible book value per share as of December 31, 2014 after giving effect to this offering and the assumed offering price. The exercise of outstanding stock options and warrants will result in further dilution of your investment. See the section entitled “Dilution” below for a more detailed illustration of the dilution you would incur if you participate in this offering.

***You may experience future dilution as a result of future equity offerings.***

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share in this offering. We may sell shares or other securities in any other offering at a price per share that is less than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be higher or lower than the price per share paid by investors in this offering.

***We do not intend to pay dividends in the foreseeable future.***

We have never paid cash dividends on our common stock and currently do not plan to pay any cash dividends in the foreseeable future.

## FORWARD-LOOKING STATEMENTS

This prospectus, including the documents that we incorporate by reference herein, contains, and any applicable prospectus supplement or free writing prospectus including the documents we incorporate by reference therein may contain, forward-looking statements, including statements regarding our future financial condition, business strategy and plans and objectives of management for future operations. Forward-looking statements include all statements that are not historical facts. In some cases, you can identify forward-looking statements by terminology such as “believe,” “will,” “may,” “estimate,” “continue,” “anticipate,” “intend,” “should,” “plan,” “might,” “approximately,” “expect,” “predict,” “could,” “potentially” or the negative of these terms or other similar expressions. Forward-looking statements appear in a number of places throughout this prospectus and include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things, our ongoing and planned preclinical development and clinical trials, the timing of and our ability to make regulatory filings and obtain and maintain regulatory approvals for AQX-1125 and our future product candidates, our intellectual property position, the degree of clinical utility of AQX-1125 and our future product candidates, particularly in specific patient populations, our ability to develop commercial functions, expectations regarding clinical trial data, our results of operations, cash needs, spending of the proceeds from this offering, financial condition, liquidity, prospects, growth and strategies, the industry in which we operate and the trends that may affect the industry or us.

Discussions containing these forward-looking statements may be found, among other places, in the sections entitled “Business,” “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” incorporated by reference from our most recent Annual Report on Form 10-K and in our Quarterly Reports on Form 10-Q, as well as any amendments thereto, filed with the SEC. These statements relate to future events or our future financial performance and involve known and unknown risks, uncertainties and other factors that could cause our actual results, levels of activity, performance or achievement to differ materially from those expressed or implied by these forward-looking statements. We discuss in greater detail, and incorporate by reference into this prospectus in their entirety, many of these risks under the headings “Risk Factors” on page 4 of this prospectus and in our Annual Report on Form 10-K for the year ended December 31, 2014, which is incorporated herein by reference, as may be updated or superseded by the risks and uncertainties described under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. These forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement and, except as required by law, we undertake no obligation to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

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## USE OF PROCEEDS

We may issue and sell shares of our common stock having aggregate sales proceeds of up to \$25 million from time to time. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time.

We currently intend to use the net proceeds from this offering primarily for research, development and manufacturing of product candidates, and for other general corporate purposes. Pending these uses, we expect to invest the net proceeds in short-term, interest-bearing securities.



## DILUTION

Our net tangible book value as of December 31, 2014 was approximately \$36.1 million, or \$3.38 per share. Net tangible book value per share is determined by dividing our total tangible assets, less total liabilities, by the number of shares of our common stock outstanding as of December 31, 2014. Dilution with respect to net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of common stock in this offering and the net tangible book value per share of our common stock immediately after this offering.

After giving effect to the assumed sale of 3,086,419 shares of our common stock in this offering at an assumed offering price of \$8.10 per share, the last reported sale price of our common stock on the NASDAQ Global Market on March 27, 2015, and after deducting estimated offering commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of December 31, 2014 would have been approximately \$60.3 million, or \$4.38 per share. This represents an immediate increase in net tangible book value of \$1.00 per share to existing stockholders and immediate dilution of \$3.72 per share to investors purchasing our common stock in this offering at the public offering price. The following table illustrates this dilution on a per share basis:

Assumed public offering price per share		\$8.10
Net tangible book value per share of as December 31, 2014	\$3.38	
Increase in net tangible book value per share attributable to this offering	<u>1.00</u>	
As adjusted net tangible book value per share as of December 31, 2014, after giving effect to this offering		<u>4.38</u>
Dilution per share to new investors purchasing our common stock in this offering		<u>\$3.72</u>

The table above assumes for illustrative purposes that an aggregate of 3,086,419 shares of our common stock are sold during the term of the sales agreement with Cowen at a price of \$8.10 per share, the last reported sale price of our common stock on The NASDAQ Global Market on March 27, 2015, for aggregate gross proceeds of \$25 million. The shares subject to the sales agreement with Cowen are being sold from time to time at various prices. An increase of \$0.50 per share in the price at which the shares are sold from the assumed offering price of \$8.10 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$25 million during the term of the sales agreement with Cowen is sold at that price, would increase our adjusted net tangible book value per share after the offering to \$4.43 per share and would increase the dilution in net tangible book value per share to new investors in this offering to \$4.17 per share, after deducting commissions and estimated aggregate offering expenses payable by us. A decrease of \$0.50 per share in the price at which the shares are sold from the assumed offering price of \$8.10 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$25 million during the term of the sales agreement with Cowen is sold at that price, would decrease our adjusted net tangible book value per share after the offering to \$4.31 per share and would decrease the dilution in net tangible book value per share to new investors in this offering to \$3.29 per share, after deducting commissions and estimated offering expenses payable by us. This information is supplied for illustrative purposes only and may differ based on the actual offering price and the actual number of shares offered.

The above discussion and table are based on 10,695,108 shares outstanding as of December 31, 2014, and exclude as of that date:

- 11,363 shares of common stock issuable upon the exercise a warrant outstanding as of December 31, 2014, having an exercise price of \$10.56 per share;
- 824,604 shares of common stock issuable upon the exercise of stock options outstanding as of December 31, 2014, having a weighted average exercise price of \$6.79 per share;
- an aggregate of 598,812 shares of common stock reserved for future issuance under our 2014 Equity Incentive Plan as of December 31, 2014.

To the extent that options or warrants outstanding as of December 31, 2014 have been or may be exercised or other shares issued, investors purchasing our common stock in this offering may experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

## DESCRIPTION OF CAPITAL STOCK

As of the date of this prospectus, our certificate of incorporation, authorizes us to issue up to 50,000,000 shares of common stock, \$0.000001 par value per share, and 5,000,000 shares of preferred stock, \$0.000001 par value per share. As of March 27, 2015, 10,723,128 shares of common stock were outstanding and no shares of preferred stock were outstanding.

The following summary describes the material terms of our capital stock. The description of capital stock is qualified by reference to our certificate of incorporation and our bylaws.

### Common Stock

#### *Voting Rights*

Each holder of our common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. Under our certificate of incorporation and bylaws, our stockholders do not have cumulative voting rights. Because of this, the holders of a majority of the shares of common stock entitled to vote in any election of directors can elect all of the directors standing for election, if they should so choose.

#### *Dividends*

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

#### *Liquidation*

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

#### *Rights and Preferences*

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

### Preferred Stock

Under our certificate of incorporation, our board of directors is authorized by resolution to divide the preferred stock into series and, with respect to each series, to determine the designations and the powers, preferences and rights, and the qualifications, limitations and restrictions thereof, including the dividend rights, conversion or exchange rights, voting rights, redemption rights and terms, liquidation preferences, sinking fund provisions and the number of shares constituting the series. Our board of directors can, without stockholder approval but subject to the terms of the certificate of incorporation, issue preferred stock with voting and other rights that could adversely affect the voting power of the holders of our common stock and which could have certain anti-takeover effects.

### Options

As of March 27, 2015, (i) options to purchase an aggregate of 37,339 shares of our common stock were outstanding under our Joint Canadian Stock Option Plan, (ii) options to purchase an aggregate of 994,995 shares of our common stock were outstanding under our 2014 Equity Incentive Plan, and (iii) an additional 818,886 shares of our common stock were reserved for future issuance under our 2014 Equity Incentive Plan.

### Warrants

As of March 27, 2015, a warrant to purchase 11,363 shares of our common stock, at an exercise price of \$10.56 per share, with an expiration date of October 23, 2023, was outstanding.

### Stockholder Registration Rights

Certain holders of shares of our common stock, including certain holders of 5% of our capital stock and entities affiliated with certain of our directors, are entitled to certain rights with respect to registration of such shares under the Securities Act. These shares are referred to as registrable securities. The holders of these registrable securities possess registration rights described in additional detail below pursuant to the terms of a qualification and registration rights agreement.

The registration of shares of our common stock pursuant to the exercise of registration rights described below would enable the holders to trade these shares without restriction under the Securities Act when the applicable registration statement is declared effective. We will pay the registration expenses, other than underwriting discounts, selling commissions and stock transfer taxes, of the shares registered pursuant to the demand, piggyback and Form S-3 registrations described below.

Generally, in an underwritten offering, the managing underwriter, if any, has the right, subject to specified conditions, to limit the number of shares the holders may include. The demand, piggyback and Form S-3 registration rights described below will expire March 7, 2017, or, with respect to any particular holder, at such time that such holder can sell its shares under Rule 144 of the Securities Act during any three month period.

### ***Demand Registration Rights***

The holders of the registrable securities are entitled to certain demand registration rights. At any time, the holders of at least 20% of the registrable securities, on not more than two occasions, may request that we register all or a portion of their shares, subject to certain specified exceptions. Such request for registration must cover securities the aggregate offering price of which, before payment of underwriting discounts and commissions, exceeds \$7,500,000.

### ***Piggyback Registration Rights***

In connection with this offering, the holders of the registrable securities were entitled to, and the necessary percentage of holders waived, their rights to notice of this offering and to include their shares of registrable securities in this offering. If we propose to register for offer and sale any of our securities under the Securities Act in a future offering, either for our own account or for the account of other security holders, the holders of these shares will be entitled to certain “piggyback” registration rights allowing them to include their shares in such registration, subject to certain marketing and other limitations. As a result, whenever we propose to file a registration statement under the Securities Act, including a registration statement on Form S-3 as discussed below, other than with respect to a demand registration or a registration statement on Forms S-4 or S-8 or related to stock issued upon conversion of debt securities, the holders of these shares are entitled to notice of the registration and have the right, subject to limitations that the underwriters may impose on the number of shares included in the registration, to include their shares in the registration.

### ***Form S-3 Registration Rights***

The holders of the registrable securities are entitled to certain Form S-3 registration rights. Any holder of these shares can make a request that we register for offer and sale their shares on Form S-3 if we are qualified to file a registration statement on Form S-3, subject to certain specified exceptions. Such request for registration on Form S-3 must cover securities the aggregate offering price of which, before payment of the underwriting discounts and commissions, equals or exceeds \$500,000. We will not be required to effect more than six registrations on Form S-3.

## **Anti-Takeover Effects of Our Charter Documents and Some Provisions of Delaware Law**

### ***Delaware Law***

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (1) by persons who are directors and also officers and (2) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines a “business combination” to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an “interested stockholder” as an entity or person who, together with the person’s affiliates and associates, beneficially owns, or within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

### ***Certificate of Incorporation and Bylaws***

Our certificate of incorporation provides for our board of directors to be divided into three classes with staggered three-year terms. Only one class of directors is elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. Because our stockholders do not have cumulative voting rights, stockholders holding a majority of the shares of common stock outstanding are able to elect all of our directors. Our certificate of incorporation and our bylaws also provide that directors may be removed by the stockholders only for cause upon the vote of 66 2/3% of our outstanding common stock. Furthermore, the authorized number of directors may be changed only by resolution of the board of directors, and vacancies and newly created directorships on the board of directors may, except as otherwise required by law or determined by the board, only be filled by a majority vote of the directors then serving on the board, even though less than a quorum.

Our certificate of incorporation and bylaws also provide that all stockholder actions must be effected at a duly called meeting of stockholders and eliminates the right of stockholders to act by written consent without a meeting. Our bylaws also provide that only our chairman of the board, chief executive officer or the board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors may call a special meeting of stockholders.

Our bylaws also provide that stockholders seeking to present proposals before a meeting of stockholders to nominate candidates for election as directors at a meeting of stockholders must provide timely advance notice in writing, and specify requirements as to the form and content of a stockholder’s notice.

Our certificate of incorporation and bylaws provide that the stockholders cannot amend many of the provisions described above except by a vote of 66 2/3% or more of our outstanding common stock.

The combination of these provisions makes it more difficult for our existing stockholders to replace our board of directors as well as for another party to obtain control of us by replacing our board of directors. Since our board of directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change our control.

These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and its policies and to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to reduce our vulnerability to hostile takeovers and to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and may have the effect of delaying changes in our control or management. As a consequence, these provisions may also inhibit fluctuations in the market price of our stock that could result from actual or rumored takeover attempts. We believe that the benefits of these provisions, including increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure our company, outweigh the disadvantages of discouraging takeover proposals, because negotiation of takeover proposals could result in an improvement of their terms.

### ***Choice of Forum***

Our certificate of incorporation provides that the Court of Chancery of the State of Delaware will be the exclusive forum for:

- any derivative action or proceeding brought on our behalf;
- any action asserting a breach of fiduciary duty; any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our certificate of incorporation or our bylaws; or
- any action asserting a claim against us that is governed by the internal affairs doctrine.

However, several lawsuits involving other companies have been brought challenging the validity of choice of forum provisions in certificates of incorporation, and it is possible that a court could note such provision is inapplicable or unenforceable.

### ***Transfer Agent and Registrar***

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

### ***Listing on the NASDAQ Global Market***

Our common stock is listed on the NASDAQ Global Market under the symbol “AQXP.”

## PLAN OF DISTRIBUTION

We have entered into a Sales Agreement with Cowen under which we may issue and sell shares of our common stock having aggregate sales proceeds of up to \$25 million from time to time through Cowen acting as agent. Cowen may sell the common stock by any method that is deemed to be an “at the market offering” as defined in Rule 415 promulgated under the Securities Act including sales made directly on or through the NASDAQ Global Market or any other existing trading market for the common stock in the United States or to or through a market maker. Cowen also may sell the common stock in negotiated transactions, subject to our prior approval.

Each time we wish to issue and sell common stock under the sales agreement, we will notify Cowen of the number of shares to be issued, the dates on which such sales are anticipated to be made and any minimum price below which sales may not be made. Once we have so instructed Cowen, unless Cowen declines to accept the terms of this notice, Cowen has agreed to use its commercially reasonable efforts consistent with its normal trading and sales practices to sell such shares up to the amount specified on such terms. The obligations of Cowen under the sales agreement to sell our common stock are subject to a number of conditions that we must meet.

The settlement between us and Cowen is generally anticipated to occur on the third trading day following the date on which the sale was made. Sales of our common stock as contemplated in this prospectus will be settled through the facilities of The Depository Trust Company or by such other means as we and Cowen may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

We will pay Cowen a commission equal to an aggregate of 3% of the gross proceeds we receive from the sales of our common stock. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. In connection with the sale of the common stock on our behalf, Cowen may, and will with respect to sales effected in an “at the market offering,” be deemed to be an “underwriter” within the meaning of the Securities Act of 1933 and the compensation of Cowen will be deemed to be underwriting commissions or discounts. We have agreed to provide indemnification and contribution to Cowen with respect to certain civil liabilities, including liabilities under the Securities Act. In addition, we have agreed to reimburse a portion of the expenses of Cowen in connection with the offering of up to a maximum of \$40,000. We estimate that the total expenses for the offering, excluding compensation payable to Cowen under the terms of the sales agreement, will be approximately \$100,000.

The offering of our common stock pursuant to the sales agreement will terminate upon the earlier of (i) the issuance and sale of all of our common stock provided for in this prospectus, or (ii) termination of the sales agreement as permitted therein.

This summary of the material provisions of the sales agreement does not purport to be a complete statement of its terms and conditions. A copy of the sales agreement is filed with the SEC and is incorporated by reference into the registration statement of which this prospectus is a part. See “Where You Can Find More Information” below.

To the extent required by Regulation M, Cowen will not engage in any market making activities involving our common stock while the offering is ongoing under this prospectus.

## LEGAL MATTERS

Cooley LLP, Palo Alto, California, has passed upon the validity of the common stock offered by this prospectus. LeClairRyan, A Professional Corporation, New York, New York, is counsel for Cowen in connection with this offering.

## EXPERTS

The financial statements, incorporated in this Prospectus by reference from the Company's Annual Report on Form 10-K have been audited by Deloitte LLP, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference. Such financial statements have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

## WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement on Form S-3 we filed with the SEC under the Securities Act and does not contain all the information set forth in the registration statement. Whenever a reference is made in this prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference therein. For further information with respect to us and the common stock we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. Neither we nor any agent, underwriter or dealer has authorized any person to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front page of this prospectus, regardless of the time of delivery of this prospectus or any sale of the common stock offered by this prospectus.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any document we file with the SEC at the SEC's public reference room at 100 F Street, N.E., Washington, D.C., 20549. Please call the SEC at 1.800.SEC.0330 for further information on the operation of the public reference room. Our SEC filings are also available to the public at the SEC's website at <http://www.sec.gov>.

## INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" the information we file with it, which means that we can disclose important information to you by referring you to those documents instead of having to repeat the information in this prospectus. The information incorporated by reference is considered to be part of this prospectus, and later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings (including those made after the date of the initial filing of the registration statement of which this prospectus is a part and prior to the effectiveness of such registration statement) we will make with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act until the termination of the offering of the shares covered by this prospectus (other than information furnished under Item 2.02 or Item 7.01 of Form 8-K):

- our annual report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 16, 2015, including the information specifically incorporated by reference therein from our definitive proxy statement on Schedule 14A, filed on March 27, 2015;
- our current reports on Form 8-K, filed with the SEC on February 2, 2015, February 17, 2015, March 2, 2015 and April 1, 2015; and
- the description of our common stock set forth in our registration statement on Form 8-A, filed with the SEC on March 3, 2014, including any amendments thereto or reports filed for the purposes of updating this description.

You can request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number:

Aquinox Pharmaceuticals, Inc.  
450-887 Great Northern Way  
Vancouver, B.C., Canada V5T 4T5  
Attn: Chief Financial Officer  
(604) 629-9223

This prospectus is part of a registration statement we filed with the SEC. That registration statement and the exhibits filed along with the registration statement contain more information about us and the shares in this offering. Because information about documents referred to in this prospectus is not always complete, you should read the full documents which are filed as exhibits to the registration statement. You may read and copy the full registration statement and its exhibits at the SEC's public reference rooms or its website.

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**\$25,000,000**



**Common Stock**

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**Prospectus**

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**Cowen and Company**

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**April 9, 2015**

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