

MOMENTA PHARMACEUTICALS INC
Form 424B5
September 01, 2016

Use these links to rapidly review the document

[TABLE OF CONTENTS](#)
[TABLE OF CONTENTS](#)

[Table of Contents](#)

Filed Pursuant to Rule 424(b)(5)
Registration No. 333-209813

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Maximum Aggregate Offering Price	Amount of Registration Fee(1)
Common Stock, \$0.0001 par value per share	\$65,400,000	\$6,586

(1) Calculated in accordance with Rule 457(r) under the Securities Act of 1933, as amended (the "Securities Act"). In accordance with Rules 456(b) and 457(r) under the Securities Act, this "Calculation of Registration Fee" table shall be deemed to update the "Calculation of Registration Fee" table in the Registration Statement on Form S-3 (Reg. No. 333-209813).

Table of Contents

PROSPECTUS SUPPLEMENT

(To Prospectus dated February 29, 2016)

\$65,400,000

Common Stock

We entered into an At-The-Market Equity Offering Sales Agreement, dated April 21, 2015, or the sales agreement, with Stifel, Nicolaus & Company, Incorporated, or Stifel, providing for the offer and sale of shares of our common stock having an aggregate offering price of up to \$75.0 million from time to time through Stifel as our sales agent. Under the sales agreement, we previously offered and sold shares of our common stock having an aggregate offering price of approximately \$9.5 million pursuant to a prior prospectus supplement and accompanying prospectus. As a result of such prior sales, 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 \$65.4 million from time to time on or after the date hereof pursuant to this prospectus supplement and the accompanying prospectus.

Our common stock is listed on The Nasdaq Global Select Market, or the Exchange, under the symbol "MNTA." On August 29, 2016, the last reported sale price of our common stock on the Exchange was \$12.15 per share.

Sales of our common stock, if any, under this prospectus supplement and the accompanying prospectus may be made in sales deemed to be an "at the market offering" 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 Exchange, 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 or at negotiated prices, and/or any other method permitted by law. Stifel 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 Stifel and us. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

The compensation to Stifel for sales of common stock sold pursuant to the sales agreement will be an amount equal to 2% of the gross sales price of any shares of common stock sold under the sales agreement. In connection with the sale of the common stock on our behalf, Stifel will be deemed to be an "underwriter" within the meaning of the Securities Act and the compensation of Stifel will be deemed to be underwriting commissions or discounts. We have also agreed to provide indemnification and contribution to Stifel with respect to certain liabilities, including liabilities under the Securities Act or the Securities Exchange Act of 1934, as amended, or the Exchange Act.

INVESTING IN OUR COMMON STOCK INVOLVES RISKS. SEE THE "RISK FACTORS" ON PAGE S-3 OF THIS PROSPECTUS SUPPLEMENT AND PAGE 3 OF THE ACCOMPANYING PROSPECTUS CONCERNING IMPORTANT FACTORS YOU SHOULD CONSIDER BEFORE INVESTING IN OUR SECURITIES.

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

Table of Contents

TABLE OF CONTENTS

Prospectus Supplement

	Page
<u>About this Prospectus Supplement</u>	<u>S-ii</u>
<u>Where You Can Find More Information: Incorporation By Reference</u>	<u>S-ii</u>
<u>Prospectus Supplement Summary</u>	<u>S-1</u>
<u>Risk Factors</u>	<u>S-3</u>
<u>Special Note Regarding Forward-Looking Statements</u>	<u>S-5</u>
<u>Use of Proceeds</u>	<u>S-7</u>
<u>Dilution</u>	<u>S-8</u>
<u>Plan of Distribution</u>	<u>S-9</u>
<u>Legal Matters</u>	<u>S-10</u>
<u>Experts</u>	<u>S-10</u>

Prospectus

<u>ABOUT THIS PROSPECTUS</u>	<u>1</u>
<u>WHERE YOU CAN FIND MORE INFORMATION: INCORPORATION BY REFERENCE</u>	<u>1</u>
<u>THE COMPANY</u>	<u>3</u>
<u>RISK FACTORS</u>	<u>3</u>
<u>USE OF PROCEEDS</u>	<u>3</u>
<u>RATIO OF EARNINGS TO FIXED CHARGES</u>	<u>4</u>
<u>DESCRIPTION OF CAPITAL STOCK</u>	<u>5</u>
<u>DESCRIPTION OF DEBT SECURITIES</u>	<u>7</u>
<u>DESCRIPTION OF WARRANTS</u>	<u>15</u>
<u>GLOBAL SECURITIES</u>	<u>16</u>
<u>SELLING SECURITYHOLDERS</u>	<u>19</u>
<u>PLAN OF DISTRIBUTION</u>	<u>20</u>
<u>LEGAL MATTERS</u>	<u>21</u>
<u>EXPERTS</u>	<u>21</u>

Table of Contents

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus relate 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 supplement, the accompanying prospectus and any free writing prospectus we have authorized for use in connection with this offering, together with the information incorporated by reference as described under the heading "Where You Can Find More Information; Incorporation by Reference" in this prospectus supplement. These documents contain important information that you should consider when making your investment decision.

This document is in two parts. The first part is this prospectus supplement, which describes the terms of this offering of common stock and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus. The second part, the accompanying prospectus dated February 29, 2016, including the documents incorporated by reference therein, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus or in any document incorporated by reference that was filed with the Securities and Exchange Commission, or SEC, before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date for example, a document incorporated by reference in the accompanying prospectus the statement in the document having the later date modifies or supersedes the earlier statement.

You should rely only on the information contained in or incorporated by reference in this prospectus supplement, the accompanying prospectus and in any free writing prospectus that we have authorized for use in connection with this offering. We have not, and the sales agent has not, authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the sales agent is not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, and in any free writing prospectus that we have authorized for use in connection with this offering, is accurate only as of the dates of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement, the accompanying prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, and any free writing prospectus that we have authorized for use in connection with this offering, in their entirety before making an investment decision.

When we refer to "Momenta," "we," "our," "us" and the "Company" in this prospectus supplement and the accompanying prospectus, we mean Momenta Pharmaceuticals, Inc. and its subsidiary, unless otherwise specified. References to "the sales agent" in this prospectus supplement refer to Stifel in that capacity.

WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE

Available Information

We file reports, proxy statements and other information with the SEC. Information filed with the SEC by us can be inspected and copied at the Public Reference Room maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You may also obtain copies of this information by mail from the Public Reference Section of the SEC at prescribed rates. Further information on the operation of the SEC's Public Reference Room in Washington, D.C. can be obtained by calling the SEC at 1-800-SEC-0330. The SEC also maintains a web site that contains reports, proxy and information statements and other

Table of Contents

information about issuers, such as us, who file electronically with the SEC. The address of that website is <http://www.sec.gov>.

Our web site address is www.momentapharma.com. The information contained on, or that can be accessed through, our web site, however, is not, and should not be deemed to be, a part of this prospectus. We have included our website address in this prospectus supplement solely as an inactive textual reference. You should not rely on any such information in deciding whether to purchase our common stock.

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

Incorporation by Reference

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

We incorporate by reference our documents listed below and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, between the date of this prospectus supplement and the termination of the offering of the securities described in this prospectus supplement. We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed below or filed in the future, that are not deemed "filed" with the SEC, including our Compensation Committee report and performance graph or any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K.

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

our Annual Report on Form 10-K for the year ended December 31, 2015, filed with the SEC on February 26, 2016;

our Quarterly Report on Form 10-Q for the quarter ended March 31, 2016, filed with the SEC on May 6, 2016;

our Amendment No. 1 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2016, filed with the SEC on September 1, 2016;

our Quarterly Report on Form 10-Q for the quarter ended June 30, 2016, filed with the SEC on August 5, 2016;

our Definitive Proxy Statement on Schedule 14A, filed with the SEC on April 27, 2016;

our Current Reports on Form 8-K filed with the SEC on January 5, 2016, January 8, 2016, March 10, 2016, June 22, 2016, June 23, 2016, and September 1, 2016; and

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Table of Contents

the description of our common stock contained in our Registration Statement on Form 8-A filed on June 14, 2004, including any amendments or reports filed with the SEC for the purpose of updating the description.

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

Momenta Pharmaceuticals, Inc.
675 West Kendall Street
Cambridge, Massachusetts 02142
Attention: Bruce A. Leicher, Corporate Secretary
(617) 491-9700

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

S-iv

Table of Contents

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights certain information about us, this offering and selected information contained elsewhere in or incorporated by reference into this prospectus supplement or the accompanying prospectus. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in 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 supplement and the accompanying prospectus, including the information incorporated by reference in this prospectus supplement and the accompanying prospectus, and the information included in any free writing prospectus that we have authorized for use in connection with this offering, including the information under the heading "Risk Factors" in this prospectus supplement on page S-3 and the accompanying prospectus on page 3.

The Company

We are a biotechnology company focused on developing generic versions of complex drugs, biosimilars and novel therapeutics for autoimmune disease.

We developed the first generic version of LOVENOX® (enoxaparin sodium injection), which was approved by the U.S. Food and Drug Administration, or FDA, in July 2010 and GLATOPA® (glatiramer acetate injection) 20 mg/mL, which was approved by the FDA in April 2015. We are currently developing a portfolio of biosimilar candidates, including biosimilar of HUMIRA® (adalimumab) and ORENCIA® (abatacept); and several novel product candidates targeting autoimmune disease.

We filed our certificate of incorporation with the Secretary of State of the State of Delaware on May 17, 2001.

Our principal executive offices are located at 675 West Kendall Street, Cambridge, Massachusetts 02142, and our telephone number is (617) 491-9700.

Table of Contents

The Offering

Common stock offered by us	Shares of our common stock having an aggregate offering price of up to \$65.4 million.
Common stock to be outstanding after this offering if all shares are sold	Assuming all \$65.4 million of our common stock is sold in this offering at an assumed offering price of \$12.15 per share, the last reported sale price of our common stock on the Exchange on August 29, 2016, we would have had 76,073,984 shares of common stock outstanding as of June 30, 2016.
Manner of offering	"At the market offering" that may be made from time to time through our sales agent, Stifel. See "Plan of Distribution" on page S-9.
Use of proceeds	We intend to use the net proceeds from this offering primarily for general corporate purposes, including working capital. See "Use of Proceeds" on page S-7 of this prospectus supplement.
Risk factors	Investing in our common stock involves significant risks. See "Risk Factors" on page S-3 of this prospectus supplement and page 3 of the accompanying prospectus for a discussion of factors you should consider carefully when making an investment decision.
NASDAQ Global Select Market symbol	MNTA

The number of shares of our common stock to be outstanding immediately after this offering as shown above is based on 70,691,268 shares outstanding as of June 30, 2016 and assumes that all \$65.4 million of our common stock is sold in this offering at an assumed offering price of \$12.15 per share, the last reported sale price of our common stock on the Exchange on August 29, 2016, and excludes as of June 30, 2016:

7,374,791 shares of common stock issuable upon the exercise of outstanding options, having a weighted average exercise price of \$13.83 per share; and

an aggregate of 5,419,153 additional shares of our common stock reserved for future issuance under our stock incentive plans.

Table of Contents

RISK FACTORS

Investment in our common stock offered pursuant to this prospectus supplement and the accompanying prospectus involves risks. You should carefully consider the risk factors set forth below and those incorporated by reference to our Quarterly Report on Form 10-Q for the quarter ended June 30, 2016, any amendment or update thereto reflected in subsequent filings with the SEC, including in our Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q and all other information contained or incorporated by reference in this prospectus supplement, as updated by our subsequent filings under the Exchange Act. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities. Please also read carefully the section below entitled "Special Note Regarding Forward-Looking Statements."

Additional Risks Related to This Offering

We have broad discretion in the use of the net proceeds from this offering.

Our management will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways with which you may not agree. Accordingly, you will be relying on the judgment of our management with regard to the use of the net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that the net proceeds will be invested or otherwise used in a way that does not yield a favorable, or any, return for the Company.

You may experience significant dilution as a result of this offering, which may adversely affect the per share trading price of our common stock.

This offering may have a dilutive effect on our earnings per share after giving effect to the issuance of our common stock in this offering and the receipt of the expected net proceeds. The actual amount of dilution from this offering will be based on numerous factors, particularly the use of proceeds and the return generated by such investment, and cannot be determined at this time. The per share trading price of our common stock could decline as a result of sales of a large number of shares of our common stock in the market pursuant to this offering. See the section below entitled "Dilution" 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. As of June 30, 2016, 5,419,153 shares of common stock were reserved for future issuance under our stock incentive plans. As of that date, there were also options outstanding to purchase 7,374,791 shares of our common stock. You will incur additional dilution upon the grant of any shares under our stock incentive plans or upon exercise of any outstanding or subsequently issued stock options.

Future sales 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, or the perception that these sales might occur, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. As of June 30, 2016, we had 70,691,268 shares of common stock outstanding, all of which shares, other than shares held by our directors

Table of Contents

and certain officers, were eligible for sale in the public market, subject in some cases to compliance with the requirements of Rule 144, including the volume limitations and manner of sale requirements. In addition, shares of common stock issuable upon exercise of outstanding options and shares reserved for future issuance under our stock incentive plans will become eligible for sale in the public market to the extent permitted by applicable vesting requirements and subject in some cases to compliance with the requirements of Rule 144.

We cannot predict the effect that future sales of our common stock would have on the market price of our common stock.

Table of Contents

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus, the documents we have filed with the SEC that are incorporated by reference and any free writing prospectus that we have authorized for use in connection with this offering may contain "forward-looking statements" within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. These statements include, but are not limited to, statements regarding our expectations regarding the development and utility of our products and product candidates; development, manufacture and commercialization of our products and product candidates; efforts to seek and manage relationships with collaboration partners, including without limitation for our biosimilar programs; the timing of clinical trials and the availability of results; the timing of launch of products and product candidates; GLATOPA® (glatiramer acetate injection) market share, market potential and product revenues; M356 launch timing and market potential; the timing, merits, strategy, impact and outcome of litigation and legal proceedings; collaboration revenues and research and development revenues; manufacturing, including but not limited to our intent to rely on contract manufacturers; regulatory filings, reviews and approvals; the sufficiency of our current capital resources and projected milestone payments and product revenues for future operations; our future financial position, including but not limited to our future operating losses, our potential future profitability, our future expenses, the composition and mix of our cash, cash equivalents and marketable securities, our future revenues and our future liabilities; our funding transactions and our intended uses of proceeds thereof; Enoxaparin Sodium Injection product revenues and market potential; product candidate development costs; receipt of contingent milestone payments; accounting policies, estimates and judgments; our estimates regarding the fair value of our investment portfolio; the market risk of our cash equivalents, marketable securities, and derivative, foreign currency and other financial instruments; rights, obligations, terms, conditions and allocation of responsibilities and decisionmaking under our collaboration agreements; the regulatory pathway for biosimilars; our strategy, including but not limited to our regulatory strategy, and scientific approach; the importance of key customer distribution arrangements; market potential and acceptance of our products and product candidates; future capital requirements; reliance on our collaboration partners and other third parties; the competitive landscape; changes in, impact of and compliance with laws, rules and regulations; product reimbursement policies and trends; pricing of pharmaceutical products, including our products and product candidates; our stock price; our intellectual property strategy and position; sufficiency of insurance; attracting and retaining qualified personnel; our internal controls and procedures; acquisitions or investments in companies, products and technologies; entering into license arrangements; marketing plans; financing our planned operating and capital expenditure; leasing additional facilities; materials used in our research and development; issuance of shares to satisfy the Parivid milestone payment; dilution; royalty rates; and vesting of equity awards.

In some cases, you can identify forward-looking statements by terms such as "anticipate," "approach," "believe," "can," "contemplate," "continue," "could," "ensure," "estimate," "expect," "intend," "likely," "may," "might," "objective," "opportunity," "plan," "potential," "predict," "project," "pursue," "seek," "schedule," "should," "strategy," "target," "typically," "will," "would," and similar expressions intended to identify forward-looking statements. 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. We discuss many of these risks in greater detail under the heading "Risk Factors" on page S-3 of this prospectus supplement and page 3 of the accompanying prospectus, and in our SEC filings. Also, these forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement.

You should read this prospectus supplement, the accompanying prospectus, the documents we have filed with the SEC that are incorporated by reference and any free writing prospectus that we have authorized for use in connection with this offering completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements.

Table of Contents

You should rely only on the information contained, or incorporated by reference, in this prospectus supplement, the accompanying prospectus and any free writing prospectus that we have authorized for use in connection with this offering. Neither we nor the sales agent have authorized anyone to provide you with different information. The common stock offered under this prospectus supplement and the accompanying prospectus is not being offered in any jurisdiction where the offer is not permitted. You should not assume that the information contained in this prospectus supplement or the accompanying prospectus is accurate as of any date other than the date on the front of this prospectus supplement or the accompanying prospectus, as applicable, or that any information incorporated by reference into this prospectus supplement or the accompanying prospectus is accurate as of any date other than the date of the document so incorporated by reference. Unless required by law, we undertake no obligation to update or revise any forward-looking statements to reflect new information or future events or developments. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements.

Table of Contents

USE OF PROCEEDS

We may issue and sell shares of our common stock having aggregate sales proceeds of up to \$65.4 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 estimate that the net proceeds from the sale of the shares of common stock that we are offering may be up to approximately \$63.9 million, after deducting Stifel's commission and estimated offering expenses payable by us.

We intend to use the net proceeds from this offering for general corporate purposes, including working capital. Pending application of the net proceeds as described above, we intend to temporarily invest the proceeds in short term, interest-bearing instruments.

S-7

Table of Contents**DILUTION**

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

As of June 30, 2016, we had a net tangible book value of \$329.1 million, or approximately \$4.66 per share of common stock. Our net tangible book value per share represents total tangible assets less total liabilities, divided by the number of shares of common stock outstanding at June 30, 2016.

After giving effect to the issuance and sale by us of our common stock in the aggregate amount of \$65.4 million at an assumed public offering price of \$12.15 per share, the last reported sale price of our common stock on The NASDAQ Global Select Market on August 29, 2016, and after deducting commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of June 30, 2016 would have been \$393.1 million, or approximately \$5.17 per share. This amount represents an immediate increase in as adjusted net tangible book value of approximately \$0.51 per share to our existing stockholders and an immediate dilution in as adjusted net tangible book value of approximately \$6.98 per share to new investors in this offering.

The following table illustrates this calculation on a per share basis. The as adjusted information is illustrative only and will adjust based on the actual public offering price, the actual number of shares sold and other terms of the offering determined at the time shares of our common stock are sold pursuant to this prospectus supplement. The as adjusted information assumes that all of our common stock in the aggregate amount of \$65.4 million is sold at the assumed public offering price of \$12.15 per share, the last reported sale price of our common stock on The NASDAQ Global Select Market on August 29, 2016. The shares sold in this offering, if any, will be sold from time to time at various prices.

Assumed public offering price per share	\$ 12.15
Net tangible book value per share as of June 30, 2016	\$ 4.66
Increase in net tangible book value per share attributable to this offering	0.51
As adjusted net tangible book value per share after this offering	5.17
Dilution per share to new investors participating in this offering	\$ 6.98

The above discussion and table are based on 70,691,268 shares of our common stock outstanding as of June 30, 2016 and excludes as of June 30, 2016:

7,374,791 shares of common stock issuable upon the exercise of outstanding options, having a weighted average exercise price of \$13.83 per share; and

an aggregate of 5,419,153 additional shares of our common stock reserved for future issuance under our stock incentive plans.

To the extent options are exercised, there may be further dilution to new investors.

Table of Contents

PLAN OF DISTRIBUTION

On April 21, 2015, we entered into the sales agreement with Stifel under which we may issue and sell shares of our common stock having aggregate offering price of up to \$75 million from time to time through Stifel acting as our sales agent. Under the sales agreement, we previously offered and sold shares of our common stock having an aggregate offering price of approximately \$9.5 million through the date of this prospectus supplement pursuant to a prior prospectus supplement and accompanying prospectus. As a result of such prior sales, 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 \$65.4 million from time to time on or after the date hereof pursuant to this prospectus supplement and the accompanying prospectus. Stifel 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 Exchange, 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 or at negotiated prices, and/or any other method permitted by law.

Each time we wish to issue and sell common stock under the sales agreement, we will notify Stifel 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, or on some other date that is agreed upon by us and Stifel in connection with a particular transaction, in return for payment of the net proceeds to us. Once we have so instructed Stifel, unless Stifel declines to accept the terms of this notice, Stifel 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 Stifel 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 Stifel 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 supplement will be settled through the facilities of The Depository Trust Company or by such other means as we and Stifel may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

Stifel will use commercially reasonable efforts consistent with its normal trading and sales practices, on mutually agreed terms between Stifel and us. We will pay Stifel a commission equal to 2% of the gross sales price of any shares of common stock sold under the sales agreement. 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, Stifel 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, and the compensation of Stifel will be deemed to be underwriting commissions or discounts. We have agreed to provide indemnification and contribution to Stifel with respect to certain civil liabilities, including liabilities under the Securities Act. We have also agreed to reimburse Stifel for certain expenses incurred in connection with the offering of our common stock pursuant to the sales agreement, up to a maximum of \$50,000. We estimate that the total expenses for the offering, excluding compensation payable to Stifel under the terms of the sales agreement, will be approximately \$151,000.

The offering of our common stock pursuant to the sales agreement will terminate upon the earlier of (i) the sale of all of our common stock subject to the sales agreement, (ii) the close of business on December 15, 2016, provided however, that the sales agreement may be extended for successive one-year periods upon the written agreement of both parties, or (iii) termination of the sales agreement as permitted therein. We have agreed with Stifel to extend the term of the sales agreement to the close of business on December 15, 2017, subject to the terms of the sales agreement.

Table of Contents

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 supplement is a part. See "Where You Can Find More Information; Incorporation by Reference" above.

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

LEGAL MATTERS

The validity of the common stock offered by this prospectus supplement and the accompanying prospectus will be passed upon for us by Latham & Watkins LLP. Duane Morris LLP is counsel for Stifel in connection with this offering.

EXPERTS

The consolidated financial statements of Momenta Pharmaceuticals, Inc. appearing in Momenta Pharmaceuticals, Inc.'s Annual Report (Form 10-K) for the year ended December 31, 2015 and the effectiveness of Momenta Pharmaceuticals, Inc.'s internal control over financial reporting as of December 31, 2015, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their reports thereon included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

Table of Contents

PROSPECTUS

Momenta Pharmaceuticals, Inc.

**Common Stock
Preferred Stock
Debt Securities
Warrants**

Common Stock Offered by the Selling Securityholders

We or selling securityholders may offer and sell the securities identified above from time to time in one or more offerings. This prospectus provides you with a general description of the securities.

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

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

INVESTING IN OUR SECURITIES INVOLVES RISKS. SEE THE "RISK FACTORS" ON PAGE 3 OF THIS PROSPECTUS AND ANY SIMILAR SECTION CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT CONCERNING FACTORS YOU SHOULD CONSIDER BEFORE INVESTING IN OUR SECURITIES.

Our common stock is listed on the Nasdaq Global Market under the symbol "MNTA." On February 26, 2016, the last reported sale price of our common stock on the Nasdaq Global Market was \$9.26 per share.

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

The date of this prospectus is February 29, 2016.

Table of Contents

TABLE OF CONTENTS

<u>ABOUT THIS PROSPECTUS</u>	<u>1</u>
<u>WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE</u>	<u>1</u>
<u>THE COMPANY</u>	<u>3</u>
<u>RISK FACTORS</u>	<u>3</u>
<u>USE OF PROCEEDS</u>	<u>3</u>
<u>RATIO OF EARNINGS TO FIXED CHARGES</u>	<u>4</u>
<u>DESCRIPTION OF CAPITAL STOCK</u>	<u>5</u>
<u>DESCRIPTION OF DEBT SECURITIES</u>	<u>7</u>
<u>DESCRIPTION OF WARRANTS</u>	<u>15</u>
<u>GLOBAL SECURITIES</u>	<u>16</u>
<u>SELLING SECURITYHOLDERS</u>	<u>19</u>
<u>PLAN OF DISTRIBUTION</u>	<u>20</u>
<u>LEGAL MATTERS</u>	<u>21</u>
<u>EXPERTS</u>	<u>21</u>

Table of Contents

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission, or the SEC, as a "well-known seasoned issuer" as defined in Rule 405 under the Securities Act of 1933, as amended, using a "shelf" registration process. By using a shelf registration statement, we may sell securities from time to time and in one or more offerings, and the selling securityholders to be named in a supplement to this prospectus may sell common stock from time to time in one or more offerings, as described in this prospectus. Each time that we or the selling securityholders offer and sell securities, we or the selling securityholders will provide a prospectus supplement to this prospectus that contains specific information about the securities being offered and sold and the specific terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus with respect to that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you should rely on the prospectus supplement. Before purchasing any securities, you should carefully read both this prospectus and the applicable prospectus supplement, together with the additional information described under the heading "Where You Can Find More Information; Incorporation by Reference."

Neither we nor the selling securityholders have authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We and the selling securityholders will not make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus and the applicable prospectus supplement to this prospectus is accurate as of the date on its respective cover, and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise. Our business, financial condition, results of operations and prospects may have changed since those dates.

When we refer to "Momenta," "we," "our," "us" and the "Company" in this prospectus, we mean Momenta Pharmaceuticals, Inc. and its subsidiary, unless otherwise specified. When we refer to "you," we mean the holders of the applicable series of securities.

Our logo, trademarks and service marks are the property of Momenta. Other trademarks or service marks appearing in this prospectus are the property of their respective holders.

WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE

Available Information

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

Our web site address is www.momentapharma.com. The information on our web site, however, is not, and should not be deemed to be, a part of this prospectus.

This prospectus and any prospectus supplement are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Forms of the indenture and other documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement. Statements in this prospectus or any prospectus supplement about these documents are summaries and each statement is qualified in all respects by reference to the document

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Table of Contents

to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement at the SEC's Public Reference Room in Washington, D.C. or through the SEC's website, as provided above.

Incorporation by Reference

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

We incorporate by reference our documents listed below and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, which we refer to as the "Exchange Act" in this prospectus, between the date of this prospectus and the termination of the offering of the securities described in this prospectus. We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed below or filed in the future, that are not deemed "filed" with the SEC, including our Compensation Committee report and performance graph or any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K.

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

Our Annual Report on Form 10-K for the year ended December 31, 2015, filed with the SEC on February 26, 2016.

Our Current Reports on Form 8-K filed with the SEC on January 5, 2016 and January 8, 2016.

The description of our Common Stock contained in our Registration Statement on Form 8-A, dated June 14, 2004, filed with the SEC on June 14, 2004 and any amendment or report filed with the SEC for the purpose of updating the description.

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

You may request a free copy of any of the documents incorporated by reference in this prospectus (other than exhibits, unless they are specifically incorporated by reference in the documents) by writing or telephoning us at the following address:

Momenta Pharmaceuticals, Inc.
675 West Kendall Street
Cambridge, Massachusetts 02142
Attention: Bruce A. Leicher, Corporate Secretary
(617) 491-9700

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

Table of Contents

THE COMPANY

We are a biotechnology company focused on developing generic versions of complex drugs, biosimilars and novel therapeutics for oncology and autoimmune disease. We were originally founded to develop novel therapeutics by applying our innovative sugar sequencing technology. We expanded our focus, applying our analytic technology and expertise to develop complex generics and biosimilars, seeking to take advantage of the abbreviated development and regulatory pathways available to these types of products in an effort to minimize time-to-market and secure near-term product revenues. Our first product, a generic version of Lovenox® (enoxaparin sodium injection), was approved by the United States Food and Drug Administration in July 2010. Our product was the only generic version of Lovenox on the market until September 2011, during which time we recognized product revenues of over \$340 million. In addition to our generic version of Lovenox, which continues to be marketed in the United States, we currently are developing a generic version of Copaxone® (glatiramer acetate); a portfolio of biosimilar candidates, including a biosimilar of HUMIRA® (adalimumab) and a biosimilar of ORENCIA® (abatacept); a novel oncology product candidate, necuparanib; and several novel product candidates targeting autoimmune disease.

Our approach to drug discovery and development is built around a complex systems analysis platform that we use to obtain a detailed understanding of complex chemical and biologic systems, design product candidates, evaluate the biological function of products and product candidates, and develop reliable and scalable manufacturing processes. We believe our complex systems analysis platform gives us a competitive advantage in developing complex generics, biosimilars and novel therapeutics. Further, the analytic tools and methods, models and data sets, the knowledge and insights developed in one area further expand the platform and can direct, inform and advance efforts in other areas. In selecting our current development programs and in the evaluation of any potentially new programs, we look for those opportunities where we believe we can best leverage our platform to realize a competitive advantage to bring new medicines to patients and create value for our stockholders.

We filed our certificate of incorporation with the Secretary of State of Delaware on May 17, 2001.

Our principal executive offices are located at 675 West Kendall Street, Cambridge, Massachusetts 02142, and our telephone number is (617) 491-9700.

RISK FACTORS

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

USE OF PROCEEDS

We intend to use the net proceeds from the sale of the securities as set forth in the applicable prospectus supplement. We will not receive any of the proceeds from the sale of common stock being offered by any selling securityholders unless otherwise indicated in the applicable prospectus supplement.

Table of Contents**RATIO OF EARNINGS TO FIXED CHARGES**

The following table sets forth our ratio of earnings to fixed charges for each of the periods indicated. You should read this table in conjunction with the consolidated financial statements and notes incorporated by reference in this prospectus.

	Fiscal Year Ended				
	December 31, 2015	December 31, 2014	December 31, 2013	December 31, 2012	December 31, 2011
Ratios of earnings to fixed charges					339x

For purposes of calculating the ratios above, earnings consist of pre-tax loss from continuing operations plus fixed charges. Fixed charges include interest expense on indebtedness and an estimate of interest expense within rental expense.

We did not record earnings for the years ended December 31, 2012, 2013, 2014 and 2015. Accordingly, our earnings were insufficient to cover fixed charges in such periods, and we are unable to disclose a ratio of earnings to fixed charges for such periods. Due to our losses for the years ended December 31, 2012, 2013, 2014 and 2015, the ratio of earnings to fixed charges was less than 1x. We would have needed to generate additional earnings of \$58,648,000, \$108,408,000, \$98,600,000 and \$83,313,000, respectively, to achieve a coverage ratio of earnings to fixed charges of 1x in those periods.

Our ratios of earnings to combined fixed charges and preferred stock dividends for the periods indicated above are the same as our ratios of earnings to fixed charges set forth above because we had no shares of preferred stock outstanding during the periods indicated and currently have no shares of preferred stock outstanding.

Table of Contents

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock is not complete and may not contain all the information you should consider before investing in our capital stock. This description is summarized from, and qualified in its entirety by reference to, our certificate of incorporation, which has been publicly filed with the SEC. See "Where You Can Find More Information; Incorporation by Reference."

Our authorized capital stock consists of:

100,000,000 shares of common stock, \$0.0001 par value; and

5,000,000 shares of preferred stock, \$0.01 par value.

Common Stock

Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and do not have cumulative voting rights. Accordingly, holders of a majority of the shares of common stock entitled to vote in any election of directors may elect all of the directors standing for election. Holders of common stock are entitled to receive proportionately any dividends as may be declared by our board of directors, subject to any preferential dividend rights of outstanding preferred stock.

In the event of our liquidation, dissolution or winding up, the holders of our common stock are entitled to receive proportionately our net assets available after the payment of all debts and other liabilities and subject to the prior rights of any outstanding preferred stock. Holders of our common stock have no preemptive, subscription, redemption or conversion rights. The rights, preferences and privileges of 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 and issue in the future.

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Co.

Preferred Stock

Under the terms of our certificate of incorporation, our board of directors is authorized to direct us to issue shares of preferred stock in one or more series without stockholder approval. Our board of directors has the discretion to determine the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences of each series of preferred stock. We have designated one series of preferred stock. See " Series A Preferred Stock" below.

The purpose of authorizing our board of directors to issue preferred stock and determine its rights and preferences is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions, future financings and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or could discourage a third party from seeking to acquire, a majority of our outstanding voting stock.

The preferred stock of each series will rank senior to the common stock and the Series A Junior Participating Preferred Stock in priority of payment of dividends and in the distribution of assets in the event of our liquidation, dissolution or winding up, to the extent of the preferential amounts to which the preferred stock of the respective series will be entitled. Upon issuance, the shares of preferred stock will be fully paid and nonassessable, which means that its holders will have paid their purchase price in full and we may not require them to pay additional funds.

Table of Contents

Series A Preferred Stock

On October 31, 2005, in connection with the adoption of a rights plan, which has subsequently expired, our board of directors designated 100,000 shares of preferred stock as Series A Junior Participating Preferred Stock, \$0.01 par value per share, or Series A preferred stock, as set forth in the Certificate of Designations of Series A Junior Participating Preferred Stock filed with the Secretary of State of the State of Delaware on November 8, 2005.

Anti-Takeover Effects of Delaware Law and Our Charter and By-Laws

We are subject to Section 203 of the General Corporation Law of the State of Delaware. Subject to certain exceptions, Section 203 prevents a publicly-held Delaware corporation from engaging in a "business combination" with any "interested stockholder" for three years following the date that the person became an interested stockholder, unless the interested stockholder attained such status with the approval of our board of directors or unless the business combination is approved in a prescribed manner. A "business combination" includes, among other things, a merger or consolidation involving us, and the interested stockholder and the sale of more than 10% of our assets. In general, an "interested stockholder" is any entity or person beneficially owning 15% or more of our outstanding voting stock and any entity or person affiliated with or controlling or controlled by such entity or person.

Our certificate of incorporation provides that the directors elected may be removed only for cause and only by the affirmative vote of the holders of at least 75% of the votes which all our stockholders would be entitled to cast in any annual election of directors. Under our certificate of incorporation, any vacancy or newly created directorships on the board of directors can be filled only by vote of a majority of our directors then in office. The limitations on the ability of our stockholders to remove directors and fill vacancies could make it more difficult for a third party to acquire, or discourage a third party from seeking to acquire, control of our company.

Our certificate of incorporation provides that any action required or permitted to be taken by our stockholders at an annual meeting or special meeting of stockholders may only be taken if it is properly brought before such meeting and may not be taken by written action in lieu of a meeting. Our certificate of incorporation and our by-laws also provide that, except as otherwise required by law, special meetings of the stockholders can only be called by our chief executive officer, president, our chairman of the board, or a majority of our board of directors. In addition, our by-laws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, including proposed nominations of candidates for election to our board of directors. Stockholders at an annual meeting may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of our board of directors or by a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has delivered timely written notice in proper form to our secretary of the stockholder's intention to bring such business before the meeting. These provisions could have the effect of delaying stockholder actions that are favored by the holders of a majority of our outstanding voting securities until the next stockholder meeting.

The General Corporation Law of the State of Delaware provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or by-laws, unless a corporation's certificate of incorporation or by-laws, as the case may be, requires a greater percentage. Our by-laws may be amended or repealed by a majority vote of our board of directors or by the affirmative vote of the holders of at least 75% of the votes which all our stockholders would be entitled to cast in any annual election of directors.

Table of Contents

DESCRIPTION OF DEBT SECURITIES

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

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

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

As used in this section only, "Momenta," "we," "our" or "us" refer to Momenta Pharmaceuticals, Inc. excluding our subsidiary, unless expressly stated or the context otherwise requires.

General

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

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

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

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

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

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

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

the place or places where principal of, and interest, if any, on the debt securities will be payable (and the method of such payment), where the securities of such series may be surrendered for

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Table of Contents

registration of transfer or exchange, and where notices and demands to us in respect of the debt securities may be delivered;

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Table of Contents

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

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

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

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

Transfer and Exchange

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

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

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

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

Covenants

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

No Protection in the Event of a Change of Control

Unless we state otherwise in the applicable prospectus supplement, the debt securities will not contain any provisions which may afford holders of the debt securities protection in the event we have

Table of Contents

a change in control or in the event of a highly leveraged transaction (whether or not such transaction results in a change in control) which could adversely affect holders of debt securities.

Consolidation, Merger and Sale of Assets

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

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

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

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

Events of Default

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

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

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

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

certain voluntary or involuntary events of bankruptcy, insolvency or reorganization of Momenta;

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

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

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

If an Event of Default with respect to debt securities of any series at the time outstanding occurs and is continuing, then the trustee or the holders of not less than 25% in principal amount of the outstanding debt securities of that series may, by a notice in writing to us (and to the trustee if given by the holders), declare to be due and payable immediately the principal of (or, if the debt securities of that series are discount

securities, that portion of the principal amount as may be specified in the terms

Table of Contents

of that series) and accrued and unpaid interest, if any, on all debt securities of that series. In the case of an Event of Default resulting from certain events of bankruptcy, insolvency or reorganization, the principal (or such specified amount) of and accrued and unpaid interest, if any, on all outstanding debt securities will become and be immediately due and payable without any declaration or other act on the part of the trustee or any holder of outstanding debt securities. At any time after a declaration of acceleration with respect to debt securities of any series has been made, but before a judgment or decree for payment of the money due has been obtained by the trustee, the holders of a majority in principal amount of the outstanding debt securities of that series may rescind and annul the acceleration if all Events of Default, other than the non-payment of accelerated principal and interest, if any, with respect to debt securities of that series, have been cured or waived as provided in the indenture. (Section 6.2) We refer you to the prospectus supplement relating to any series of debt securities that are discount securities for the particular provisions relating to acceleration of a portion of the principal amount of such discount securities upon the occurrence of an Event of Default.

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

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

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

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

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

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

Table of Contents

Modification and Waiver

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

to cure any ambiguity, defect or inconsistency;

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

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

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

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

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

to comply with the applicable procedures of the applicable depositary;

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

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

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

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

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

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

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

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

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

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

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

make any change to certain provisions of the indenture relating to, among other things, the right of holders of debt securities to receive payment of the principal of, premium and interest on

Table of Contents

those debt securities and to institute suit for the enforcement of any such payment and to waivers or amendments; or

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

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

Defeasance of Debt Securities and Certain Covenants in Certain Circumstances

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

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

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

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

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

The conditions include:

depositing with the trustee money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. Dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of

Table of Contents

interest and principal in accordance with their terms, will provide money in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal of, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities; and

delivering to the trustee an opinion of counsel to the effect that we have received from, or there has been published by, the United States Internal Revenue Service a ruling or, since the date of execution of the indenture, there has been a change in the applicable United States federal income tax law, in either case to the effect that, and based thereon such opinion shall confirm that, the holders of the debt securities of that series will not recognize income, gain or loss for United States federal income tax purposes as a result of the deposit and related covenant defeasance and will be subject to United States federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit and related covenant defeasance had not occurred. (Section 8.4)

No Personal Liability of Directors, Officers, Employees or Stockholders

None of our past, present or future directors, officers, employees or stockholders, as such, will have any liability for any of our obligations under the debt securities or the indenture or for any claim based on, or in respect or by reason of, such obligations or their creation. By accepting a debt security, each holder waives and releases all such liability. This waiver and release is part of the consideration for the issue of the debt securities. However, this waiver and release may not be effective to waive liabilities under U.S. federal securities laws, and it is the view of the SEC that such a waiver is against public policy.

Governing Law

The indenture and the debt securities, including any claim or controversy arising out of or relating to the indenture or the securities, will be governed by the laws of the State of New York (Section 10.10).

Table of Contents

DESCRIPTION OF WARRANTS

We will set forth in the applicable prospectus supplement a description of any warrants issued by us that may be offered and sold pursuant to this prospectus.

Table of Contents

GLOBAL SECURITIES

Book-Entry, Delivery and Form

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

DTC has advised us that it is:

- a limited-purpose trust company organized under the New York Banking Law;
- a "banking organization" within the meaning of the New York Banking Law;
- a member of the Federal Reserve System;
- a "clearing corporation" within the meaning of the New York Uniform Commercial Code; and
- a "clearing agency" registered pursuant to the provisions of Section 17A of the Exchange Act.

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

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

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

Table of Contents

which may or may not be the beneficial owners. The participants are responsible for keeping account of their holdings on behalf of their customers.

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

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

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

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

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

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

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

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

Table of Contents

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

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

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

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

an Event of Default has occurred and is continuing with respect to such series of securities,

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

We have obtained the information in this section and elsewhere in this prospectus concerning DTC and DTC's book-entry system from sources that are believed to be reliable, but we take no responsibility for the accuracy of this information.

Table of Contents

SELLING SECURITYHOLDERS

Information about selling securityholders, where applicable, will be set forth in a prospectus supplement, in a post-effective amendment or in filings we make with the SEC under the Exchange Act that are incorporated by reference.

Table of Contents

PLAN OF DISTRIBUTION

We or any of the selling securityholders may sell the offered securities from time to time:

through underwriters or dealers;

through agents;

directly to one or more purchasers; or

through a combination of any of these methods of sale.

We will identify the specific plan of distribution, including any underwriters, dealers, agents or direct purchasers and their compensation in the applicable prospectus supplement.

Table of Contents

LEGAL MATTERS

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

EXPERTS

The consolidated financial statements of Momenta Pharmaceuticals, Inc. appearing in Momenta Pharmaceuticals, Inc.'s Annual Report (Form 10-K) for the year ended December 31, 2015 and the effectiveness of Momenta Pharmaceuticals, Inc.'s internal control over financial reporting as of December 31, 2015, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their reports thereon included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

Table of Contents

\$65,400,000

Common Stock

Prospectus Supplement

September 1, 2016
