

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
WASHINGTON, D.C. 20549

**FORM S-8**

**REGISTRATION STATEMENT  
under the  
SECURITIES ACT OF 1933**

**SYNTA PHARMACEUTICALS CORP.**

(Exact Name of Registrant as Specified in Its Charter)

**Delaware**  
(State or Other Jurisdiction  
of Incorporation or Organization)

**45 Hartwell Avenue**  
**Lexington, Massachusetts 02421**  
(Address, Including Zip Code, of  
Principal Executive Offices)

**04-3508648**  
(I.R.S. Employer  
Identification No.)

**SYNTA PHARMACEUTICALS CORP. 2015 STOCK PLAN**  
(Full Title of the Plan)

**Chen Schor**  
**President and Chief Executive Officer**  
**Synta Pharmaceuticals Corp.**  
**45 Hartwell Avenue**  
**Lexington, Massachusetts 02421**  
**(781) 274-8200**

(Name, Address and Telephone Number, Including Area Code, of Agent For Service)

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer  (Do not check if a smaller reporting company)

Smaller reporting company

**CALCULATION OF REGISTRATION FEE**

Title of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price Per Share(2)	Proposed Maximum Aggregate Offering Price(2)	Amount of Registration Fee
Common Stock, \$0.0001 par value	8,741,000	\$ 2.10	\$ 18,327,930.80	\$ 2,129.71

(1) The number of shares of common stock, par value \$0.0001 per share ("Common Stock"), stated above consists of the aggregate number of shares which may be sold (i) upon the exercise of options which have been granted under the Synta Pharmaceuticals Corp. 2015 Stock Plan (the "2015 Stock Plan") and (ii) upon the exercise of options or issuances of stock awards which may hereafter be granted under the 2015 Stock Plan. The maximum number of shares which may be sold upon the exercise of such options or issuance of stock awards granted under the 2015 Stock Plan is subject to adjustment in accordance with certain anti-dilution and other provisions of the 2015 Stock Plan. Accordingly, pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement covers, in addition to the number of shares stated above, an indeterminate number of shares which may be subject to grant or otherwise issuable after the operation of any such anti-dilution and other provisions of the 2015 Stock Plan.

(2) This calculation is made solely for the purpose of determining the registration fee pursuant to the provisions of Rule 457(c) and (h) under the Securities Act as follows: (i) in the case of shares of Common Stock which may be purchased upon exercise of outstanding options, the fee is calculated on the basis of the price at which the options may be exercised; and (ii) in the case of shares of Common Stock for which options and stock awards have not yet been granted and the option price of which is therefore unknown, the fee is calculated on the basis of the average of the high and low sale prices per share of the Common Stock on The Nasdaq Global Market as of a date (August 3, 2015) within five business days prior to filing this Registration Statement.

## EXPLANATORY NOTE

In accordance with the instructional Note to Part I of Form S-8 as promulgated by the Securities and Exchange Commission (the "Commission"), the information specified by Part I of Form S-8 has been omitted from this Registration Statement on Form S-8 for offers of Common Stock pursuant to the Plan. The documents containing the information specified in Part I will be delivered to the participants in the Plan covered by this Registration Statement as required by Rule 428(b)(1) under the Securities Act.

## PART II

### INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

#### Item 3. Incorporation of Documents by Reference.

The following documents filed by the Registrant with the Commission are incorporated herein by reference:

- (a) The Registrant's Annual Report on Form 10-K for the year ended December 31, 2014 filed on March 12, 2015;
- (b) The Registrant's Quarterly Reports on Form 10-Q for the quarters ended March 31, 2015 and June 30, 2015 filed on May 7, 2015 and August 6, 2015, respectively;
- (c) The Registrant's Current Reports on Form 8-K filed on February 5, 2015, March 6, 2015, April 1, 2015, April 6, 2015, April 27, 2015 and June 15, 2015;
- (d) The portions of the Registrant's Definitive Proxy Statement on Schedule 14A filed on April 30, 2015 that are deemed "filed" with the Commission under the Securities Exchange Act of 1934, as amended (the "Exchange Act");
- (e) The description of the Registrant's Common Stock contained in the Registrant's Registration Statement on Form 8-A, filed with the Commission under the Exchange Act on January 26, 2007, including any amendment or report filed for the purpose of updating such description.

The SEC file number for each of the documents listed above is 001-33277.

All reports and other documents filed by the Registrant after the date hereof pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act prior to the filing of a post-effective amendment which indicates that all securities offered hereby have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference herein and to be part hereof from the date of filing of such reports and documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for the purposes of this Registration Statement to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

#### Item 4. Description of Securities.

Not applicable.

#### Item 5. Interests of Named Experts and Counsel.

None.

#### Item 6. Indemnification of Directors and Officers.

Our restated certificate of incorporation, as amended, and restated bylaws provide that each person who was or is made a party or is threatened to be made a party to or is otherwise involved (including, without limitation,

as a witness) in any action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he or she is or was a director or an officer of Synta Pharmaceuticals Corp. or is or was serving at our request as a director, officer, or trustee of another corporation, or of a partnership, joint venture, trust or other enterprise, including service with respect to an employee benefit plan, whether the basis of such proceeding is alleged action in an official capacity as a director, officer or trustee or in any other capacity while serving as a director, officer or trustee, shall be indemnified and held harmless by us to the fullest extent authorized by the Delaware General Corporation Law against all expense, liability and loss (including attorneys' fees, judgments, fines, ERISA excise taxes or penalties and amounts paid in settlement) reasonably incurred or suffered by such.

Section 145 of the Delaware General Corporation Law permits a corporation to indemnify any director or officer of the corporation against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with any action, suit or proceeding brought by reason of the fact that such person is or was a director or officer of the corporation, if such person acted in good faith and in a manner that he or she reasonably believed to be in, or not opposed to, the best interests of the corporation, and, with respect to any criminal action or proceeding, if he or she had no reason to believe his or her conduct was unlawful. In a derivative action, (*i.e.*, one brought by or on behalf of the corporation), indemnification may be provided only for expenses actually and reasonably incurred by any director or officer in connection with the defense or settlement of such an action or suit if such person acted in good faith and in a manner that he or she reasonably believed to be in, or not opposed to, the best interests of the corporation, except that no indemnification shall be provided if such person shall have been adjudged to be liable to the corporation, unless and only to the extent that the court in which the action or suit was brought shall determine that the defendant is fairly and reasonably entitled to indemnity for such expenses despite such adjudication of liability.

Pursuant to Section 102(b)(7) of the Delaware General Corporation Law, Article Ninth of our restated certificate of incorporation eliminates the liability of a director to us or our stockholders for monetary damages for such a breach of fiduciary duty as a director, except for liabilities arising:

- from any breach of the director's duty of loyalty to us or our stockholders;
- from acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;
- under Section 174 of the Delaware General Corporation Law; and
- from any transaction from which the director derived an improper personal benefit.

We carry insurance policies insuring our directors and officers against certain liabilities that they may incur in their capacity as directors and officers. In addition, we have entered into indemnification agreements with our directors and officers.

Any underwriting agreements that we may enter into will likely provide for the indemnification of us, our controlling persons, our directors and certain of our officers by the underwriters against certain liabilities, including liabilities under the Securities Act of 1933, as amended.

Item 7. Exemption from Registration Claimed.

Not applicable.

Item 8. Exhibits.

The Index of Exhibits immediately following the signatures to this Registration Statement is incorporated herein by reference.

Item 9. Undertakings.

(a) The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

*Provided, however,* that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in this registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

- (b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in this registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

## SIGNATURES

**The Registrant.** Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Lexington, Massachusetts on August 6, 2015.

SYNTA PHARMACEUTICALS CORP.

By /s/ CHEN SCHOR  
Chen Schor  
President and Chief Executive Officer

Each person whose signature appears below constitutes and appoints Chen Schor and Marc R. Schneebaum, and each of them singly, his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution in each of them singly, for him and in his name, place and stead, and in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement of Synta Pharmaceuticals Corp. and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting to the attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite or necessary to be done in or about the premises, as full to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that the attorneys-in-fact and agents or any of each of them or their substitute may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ CHEN SCHOR</u> Chen Schor	Chief Executive Officer and President and Director (principal executive officer)	August 6, 2015
<u>/s/ MARC R. SCHNEEBAUM</u> Marc R. Schneebaum	Senior Vice President, Chief Financial Officer (principal financial and accounting officer)	August 6, 2015
<u>/s/ KEITH R. GOLLUST</u> Keith R. Gollust	Chairman of the Board	August 6, 2015
<u>/s/ PAUL A. FRIEDMAN, M.D.</u> Paul A. Friedman, M.D.	Director	August 6, 2015
<u>/s/ BRUCE KOVNER</u> Bruce Kovner	Director	August 6, 2015
<u>/s/ DONALD W. KUFE, M.D.</u> Donald W. Kufe, M.D.	Director	August 6, 2015
<u>/s/ WILLIAM S. REARDON, C.P.A.</u> William S. Reardon, C.P.A.	Director	August 6, 2015
<u>/s/ ROBERT N. WILSON</u> Robert N. Wilson	Director	August 6, 2015

## INDEX OF EXHIBITS

<u>Exhibit Number</u>	<u>Description</u>
4.1(1)	Restated Certificate of Incorporation of the Registrant. (3.2)
4.1.1(2)	Certificate of Amendment to the Restated Certificate of Incorporation of the Registrant. (3.1)
4.2(1)	Restated Bylaws of the Registrant. (3.4)
4.3(1)	Form of Common Stock Certificate. (4.1)
5.1*	Opinion of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. as to the legality of shares being registered.
23.1*	Consent of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. (included in opinion of counsel filed as Exhibit 5.1).
23.2*	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
24*	Power of Attorney to file future amendments (set forth on the signature page of this Registration Statement).
99.1(3)	The Registrant's 2015 Stock Plan (10.1).

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\* Filed herewith.

- (1) Incorporated by reference from the Registrant's Registration Statement on Form S-1, as amended (Registration No. 333-138894), initially filed with the Securities and Exchange Commission on November 22, 2006.
- (2) Incorporated by reference from the Registrant's Current Report on Form 8-K (File No. 001-33277), filed with the Securities and Exchange Commission on June 17, 2013.
- (3) Incorporated by reference from the Registrant's Current Report on Form 8-K (File No. 001-33277), filed with the Securities and Exchange Commission on June 15, 2015.

MINTZ LEVIN

One Financial Center  
Boston, MA 02111  
617-542-6000  
617-542-2241 fax  
www.mintz.com

August 6, 2015

Synta Pharmaceuticals Corp.  
45 Hartwell Avenue  
Lexington, MA 02421

Ladies and Gentlemen:

We have acted as legal counsel to Synta Pharmaceuticals Corp., a Delaware corporation (the "Company"), in connection with the preparation and filing with the Securities and Exchange Commission (the "Commission") of a Registration Statement on Form S-8 (the "Registration Statement"), pursuant to which the Company is registering the issuance under the Securities Act of 1933, as amended (the "Securities Act"), of a total of 8,741,000 shares (the "Shares") of the Company's common stock, \$0.0001 par value per share, that may be issued pursuant to the Company's 2015 Stock Plan (the "Plan"). This opinion is being rendered in connection with the filing of the Registration Statement with the Commission. All capitalized terms used herein and not otherwise defined shall have the respective meanings given to them in the Registration Statement.

In connection with this opinion, we have examined the Company's Restated Certificate of Incorporation, as amended, and Restated By-Laws, both as currently in effect; such other records of the corporate proceedings of the Company and certificates of the Company's officers as we have deemed relevant; and the Registration Statement and the exhibits thereto.

In our examination, we have assumed the genuineness of all signatures, the legal capacity of natural persons, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as certified or photostatic copies and the authenticity of the originals of such copies. In addition, we have assumed that the Company will receive any required consideration in accordance with the terms of the Plan

Based upon the foregoing, we are of the opinion that the Shares, when issued and delivered in accordance with the terms of the Plan, will be validly issued, fully paid and non-assessable.

Our opinion is limited to the General Corporation Law of the State of Delaware and we express no opinion with respect to the laws of any other jurisdiction. No opinion is expressed herein with respect to the qualification of the Shares under the securities or blue sky laws of any state or any foreign jurisdiction.

Please note that we are opining only as to the matters expressly set forth herein, and no opinion should be inferred as to any other matters. This opinion is based upon currently existing statutes, rules, regulations and judicial decisions, and we disclaim any obligation to advise you of any change in any of these sources of law or subsequent legal or factual developments which might affect any matters or opinions set forth herein.

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We understand that you wish to file this opinion with the Commission as an exhibit to the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K promulgated under the Securities Act, and we hereby consent thereto. In giving this consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission promulgated thereunder.

Very truly yours,

/s/ Mintz, Levin, Cohn, Ferris,  
Glovsky and Popeo, P.C.

Mintz, Levin, Cohn, Ferris,  
Glovsky and Popeo, P.C.

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**Consent of Independent Registered Public Accounting Firm**

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the Synta Pharmaceuticals Corp. 2015 Stock Plan of our reports dated March 12, 2015, with respect to the consolidated financial statements of Synta Pharmaceuticals Corp. and the effectiveness of internal control over financial reporting of Synta Pharmaceuticals Corp., included in its Annual Report (Form 10-K) for the year ended December 31, 2014, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts

August 6, 2015

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