
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

SCHEDULE 13D

(Rule 13d-101)

UNDER THE SECURITIES EXCHANGE ACT OF 1934

SYNTA PHARMACEUTICALS CORP.

(Name of Issuer)

Common Stock, par value \$.001 per share
(Title of Class of Securities)

87162T206
(CUSIP Number)

Rebecca Taub, M.D.
Acting Chief Executive Officer
Madrigal Pharmaceuticals, Inc.
500 Office Center Drive, Suite 400
Fort Washington, PA 19034

(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

Copy to:
Michael Lawhead, Esq.
Stradling Yocca Carlson & Rauth, P.C.
660 Newport Center Drive, Suite 1600
Newport Beach, California 92660
(949) 725-4000

April 13, 2016
(Date of Event Which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of Rule 13d-1(e), 13d-1(f) or 13d-1(g), check the following box: ☐

Note: Schedules filed in paper format shall include a signed original and five copies of the schedules, including all exhibits. See Rule 13d-7 for other parties to whom copies are to be sent.

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purposes of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes)

1	Names of Reporting Persons: Madrigal Pharmaceuticals, Inc.		
2	Check the Appropriate Box if a Member of a Group (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC Use Only		
4	Source of Funds OO		
5	Check Box if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e) <input type="checkbox"/> Not Applicable		
6	Citizenship or Place of Organization United States, State of Delaware		
Number of Shares Beneficially Owned by each Reporting Person with:	7	Sole Voting Power 0	
	8	Shared Voting Power 31,553,861*	
	9	Sole Dispositive Power 0	
	10	Shared Dispositive Power 0	
11	Aggregate Amount Beneficially Owned By Each Reporting Person 31,553,861*		
12	Check Box if the Aggregate Amount in Row (11) Excludes Certain Shares <input type="checkbox"/>		
13	Percent of Class Represented by Amount in Row (11) 21.0%		
14	Type of Reporting Person: CO		

* Beneficial ownership of the common stock, par value \$.001 per share of Synta Pharmaceuticals Corp., a Delaware corporation ("Synta"), is being reported hereunder solely because the Reporting Person may be deemed to have beneficial ownership of such Synta common stock by virtue of the Voting Agreements described in Item 4 of this Schedule 13D (the "Voting Agreements"). Neither the filing of this Schedule 13D nor any of its contents shall be deemed to constitute an admission by the Reporting Person that it is the beneficial owner of any Synta common stock for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or for any other purpose, and such beneficial ownership thereof is expressly disclaimed.

The shares of Synta common stock over which the Reporting Person may be deemed to have shared voting power are comprised of 25,077,404 outstanding shares of Synta common stock, 3,176,457 shares subject to options to acquire shares of Synta common stock and 3,300,000 shares subject to restricted stock units that are subject to the Voting Agreements.

The percent of class represented by amount in row (11) is based on 137,806,441 shares of common stock outstanding as of March 31, 2016, 7,335,500 shares of Synta common stock subject to outstanding options and 5,000,000 shares of Synta common stock subject to outstanding restricted stock units, each as set forth in the merger agreement described in Item 4 hereof.

Item 1. Security and Issuer.

This statement on Schedule 13D relates to the Common Stock, \$0.001 par value per share, of Synta Pharmaceuticals Corp. (the “Issuer” or “Synta”). The principal executive office of the Issuer is located at 45 Hartwell Avenue, Lexington, MA 02421.

Item 2. Identity and Background.

(a)

This Schedule 13D is being filed on behalf of Madrigal Pharmaceuticals, Inc., a Delaware corporation (“Madrigal” or the “Reporting Person”).

(b)

The address of the principal business office of Madrigal is 500 Office Center Drive, Suite 400, Fort Washington, PA 19034.

(c)

The principal business occupation of Madrigal is to develop and commercialize innovative therapeutics to treat cardiovascular, metabolic and liver diseases.

(d) -(e)-(f)

The directors and executive officers of Madrigal, their respective business addresses and their respective countries of citizenship are set forth in Schedule A hereto. During the last five years, Madrigal has not, and to the best of Madrigal’s knowledge, none of the persons listed on Schedule A attached hereto has, (i) been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors) or (ii) been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

Item 3. Source and Amount of Funds or Other Consideration.

As an inducement for Madrigal to enter into the Merger Agreement described in Item 4 below and in consideration thereof, the officers, directors and certain stockholders of Synta holding approximately 18.2% of the outstanding shares of Synta entered into voting agreements with Madrigal relating to the Merger (discussed in Item 4 below). In addition, these officers, directors and stockholders of Synta granted Madrigal an irrevocable proxy with respect to the Synta securities covered by the Voting Agreements. Madrigal did not pay additional consideration to the officers, directors and stockholders of Synta in connection with the execution and delivery of the Voting Agreements and thus no funds were used for such purpose.

References to, and descriptions of, the Merger, the Merger Agreement and the Voting Agreements, as set forth herein, are qualified in their entirety by reference to the copies of the Merger Agreement and the Voting Agreements included as Exhibits 1 and 2, respectively, to this Statement, which are incorporated by reference herein in their entirety where such references and descriptions appear.

Item 4. Purpose of Transaction.

(a) and (b)

Pursuant to the Voting Agreements, dated as of April 13, 2016, among Madrigal and officers, directors and certain stockholders of Synta (collectively, the “Stockholders”) (the “Voting Agreements”), Madrigal may be deemed to be the beneficial owner of 31,553,861 shares of Synta common stock (collectively, the “Subject Shares”).

Madrigal and the Stockholders entered into the Voting Agreements as a material inducement for Madrigal to enter into the Agreement and Plan of Merger and Reorganization, dated as of April 13, 2016 (the “Merger Agreement”), by and among Madrigal, Synta, Landmark Merger Sub Inc., a Delaware corporation and a wholly-owned subsidiary of Synta (“Merger Sub”), and solely with respect to Section 5.14 of the Merger Agreement, Brent Ahrens, as the agent of Madrigal’s stockholders.

Upon the terms and subject to the satisfaction of the conditions described in the Merger Agreement, including approval of the transaction by Madrigal’s stockholders and Synta’s stockholders, the Merger Sub will be merged with and into Madrigal (the “Merger”), with Madrigal surviving the Merger as a wholly-owned subsidiary of Synta.

The Voting Agreements were entered into as a condition to the willingness of Madrigal to enter into the Merger Agreement and to increase the likelihood that the approval of Synta’s stockholders required in connection with the Merger will be obtained. Pursuant to the terms of the Voting Agreements, any shares of capital stock of the Issuer acquired by any Stockholder after the date of the Voting Agreements or owned by the Stockholders prior to the termination of the Voting Agreements will be subject to the Voting Agreements. Accordingly, any such acquisition of shares of capital stock of the Issuer by any Stockholder may result in Madrigal being deemed to acquire beneficial ownership of additional securities of the Issuer.

Pursuant to the Voting Agreements, the Stockholders, with respect to the Subject Shares (and any additional shares of capital stock of the Issuer acquired by any Stockholder after the date of the Voting Agreements or owned by the Stockholders prior to the termination of the Voting Agreements), have agreed, among other things, to vote all of the shares of Synta held by them in favor of the issuance of shares of Synta common stock in connection with the Merger and the transactions contemplated by the Merger Agreement and the amendments to the Company’s certificate of incorporation contemplated by the Merger Agreement.

Further, as part of the Voting Agreements, each Stockholder has entered into an Irrevocable Proxy thereby irrevocably appointing Madrigal as the attorney-in-fact and proxy for and on behalf of the Stockholder (the “Attorneys”), to vote and exercise all voting and related rights (to the full extent that the Stockholder is entitled to do so) with respect to all of the shares of capital stock of the Issuer that now are or hereafter may be beneficially owned by the Stockholder, and any and all other shares or securities of the Issuer issued or issuable in respect thereof on or after the date hereof in accordance with the terms of the Irrevocable Proxy.

In exercising its right to vote the Subject Shares as the sole and exclusive attorneys and proxies of the Stockholders, the Attorneys’ rights are limited to voting the Subject Shares, or granting a consent or approval with respect to the Subject Shares: (i) in favor of (A) the adoption of the Merger Agreement and the approval of the Merger, including without limitation the issuance of the shares of Synta common stock by virtue of the Merger as contemplated by the Merger Agreement, and (B) an amendment to Synta’s certificate of incorporation as set forth in the Merger Agreement; (ii) against any action, proposal, transaction or agreement that, to the knowledge of the Stockholders, would reasonably be expected to result in a breach in any material respect of any covenant, representation or warranty or any other obligation or agreement of Synta under the Merger Agreement or that would reasonably be expected to result in any of the conditions to the parties’ obligations under the Merger Agreement not being fulfilled; and (iii) against any acquisition proposal, or any agreement, transaction or other matter that is intended to, or would reasonably be expected to, impede, interfere with, delay, postpone, discourage or materially and adversely affect the consummation of the Merger and all other transactions contemplated by the Merger Agreement. The Stockholders may vote the Subject Shares on all other matters.

The Voting Agreements and Irrevocable Proxies expire upon the earlier of (i) the termination of the Merger Agreement, in accordance with its terms, or (ii) such date and time as the Merger shall become effective in accordance with the terms and conditions set forth in the Merger Agreement.

(c)

Not Applicable.

(d)

Following the Merger, Madrigal's Chief Executive Officer, Rebecca Taub, M.D., will be Synta's Chief Medical Officer and Executive Vice President, Research & Development. Additionally, following the Merger, the board of directors of Synta will consist of seven seats and will be comprised of five representatives of Madrigal, one representative of Synta and one additional independent director to be agreed upon by Synta and Madrigal.

(e)

Other than as a result of the Merger described in this Item 4 above, not applicable.

(f)

Not Applicable.

(g)

Following the consummation of the Merger, the Certificate of Incorporation of Synta shall be amended to cause its name to be changed to "Madrigal Pharmaceuticals, Inc."

(h)

Not Applicable.

(i)

Not Applicable.

(j)

Other than as described above, Madrigal currently has no plans or proposals that relate to, or may result in, any of the matters listed in Items 4(a) - (i) of Schedule 13D (although Madrigal reserves the right to develop such plans).

Item 5. Interest in Securities of the Issuer.

(a) and (b)

As of the date hereof, the Reporting Person owns no shares of Synta common stock. For purposes of Rule 13d-3 under the Exchange Act ("Rule 13d-3"), however, as a result of entering into the Voting Agreements, the Reporting Person may be deemed to possess shared voting power over, and therefore beneficially own for purposes of Rule 13d-3, the 31,553,861 shares of Synta common stock that are beneficially owned by the Stockholders. The 31,553,861 shares of Synta common stock over which the Reporting Person may be deemed to have shared voting power represent approximately 21.0% of the outstanding shares of Synta common stock, outstanding options to purchase Synta common stock and outstanding Synta restricted stock units. Notwithstanding the preceding, the Reporting Person hereby disclaims beneficial ownership of such shares of Synta common stock and this Schedule 13D shall not be construed as an admission that the Reporting Person is, for any or all purposes, the beneficial owner of the securities covered by this Schedule 13D.

(c)

Except as described in this Schedule 13D, there have been no transactions in the shares of common stock effected by the Reporting Person, or, to the best of the Reporting Person's knowledge, any person or entity identified on Schedule A hereto, during the last 60 days.

(d)

Other than the Stockholders identified in Item 3 party to the Voting Agreements, to the best knowledge of the Reporting Person, neither the Reporting Person nor any of its respective directors and executive officers named in Schedule A hereto has or knows any other person who has the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, any Synta common stock beneficially owned by the Reporting Person.

(e)

Not applicable.

Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer.

The information set forth under Items 3, 4 and 5 and the agreements set forth on the Exhibits attached hereto are incorporated herein by reference. Other than the Merger Agreement and the Voting Agreements described above, to the best of the Reporting Person's knowledge, there are no contracts, arrangements, understandings or relationships (legal or otherwise) between the Reporting Person, or any Reporting Person subsidiary or any person listed on Schedule A hereto, and any person with respect to the securities of Synta, including, but not limited to, transfer or voting of any of the securities, finder's fees, joint ventures, loan or option arrangements, puts or calls, guarantees of profits, division of profits or loss, or the giving or withholding of proxies, including any securities pledged or otherwise subject to a contingency the occurrence of which would give another person voting power or investment power over such securities.

Item 7. Material to be Filed as Exhibits.

<u>Exhibit No.</u>	<u>Description</u>
1	Agreement and Plan of Merger and Reorganization, dated as of April 13, 2016, by and among Synta Pharmaceuticals Corp., Madrigal Pharmaceuticals, Inc. and Saffron Merger Sub, Inc. (incorporated by reference to Exhibit 2.1 to the Current Report on Form 8-K filed by Synta Pharmaceuticals Corp. on April 14, 2016).
2	Form of Synta Voting Agreement, by and among Synta Pharmaceuticals Corp., Madrigal Pharmaceuticals, Inc. and each of the stockholders of Synta named in each agreement (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed by Synta Pharmaceuticals Corp. on April 14, 2016).

SIGNATURE

After reasonable inquiry and to the best of its knowledge and belief, each of the undersigned certifies that the information set forth in this statement is true, complete and correct.

Date: April 27, 2016

MADRIGAL PHARMACEUTICALS, INC.

By: /s/ Rebecca Taub, M.D.

Name: Rebecca Taub, M.D.

Title: Acting Chief Executive Officer

SCHEDULE 13D
Exhibit Index

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SCHEDULE A**DIRECTORS AND EXECUTIVE OFFICERS OF MADRIGAL PHARMACEUTICALS, INC.**

The following is a list of the directors and executive officers of Madrigal Pharmaceuticals, Inc. ("Madrigal"), setting forth the name, residence or business address, present position with Madrigal and present principal occupation or employment (along with the name of any corporation or other organization in which such employment is conducted). Unless otherwise indicated, all directors and officers listed below are citizens of the United States and employed by Madrigal. The principal address of Madrigal, and unless otherwise indicated below, the current business address for each individual listed below is 500 Office Center Drive, Suite 400, Fort Washington, PA 19034.

<u>Name of Directors</u>	<u>Present Principal Occupation</u>
Fred Craves, Ph.D.	Chairman of the Board of Directors of Madrigal and Managing Director of Bay City Capital, 750 Battery Street, Suite 400, San Francisco, CA 94111.
Lionel Carnot	Managing Director of Bay City Capital, 750 Battery Street, Suite 400, San Francisco, CA 94111.
Rebecca Taub, M.D.	Acting Chief Executive Officer of Madrigal.
<u>Name of Executive Officers</u>	<u>Present Principal Occupation</u>
Rebecca Taub, M.D.	Acting Chief Executive Officer of Madrigal.