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

FORM 8-K

**CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934**

Date of Report (Date of earliest event reported): **June 9, 2011**

SYNTA PHARMACEUTICALS CORP.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

001-33277
(Commission File Number)

04-3508648
(IRS Employer
Identification No.)

45 Hartwell Avenue
Lexington, MA 02421
(Address of principal executive offices and zip code)

Registrant's telephone number, including area code: **(781) 274-8200**

(Former name or former address, if changed since last report.)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- ☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - ☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - ☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - ☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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ITEM 1.01 Entry into a Material Definitive Agreement.

On June 9, 2011, Synta Pharmaceuticals Corp. (“Synta”) entered into a Lease Agreement (the “Agreement”) with 125 Hartwell Trust relating to an aggregate of 38,400 square feet of office and laboratory space located at 125 Hartwell Avenue, Lexington, Massachusetts. 27,992 square feet of the space is currently being leased by Synta pursuant to a Lease Agreement that expires on November 30, 2011, and the remaining 10,408 square feet is new space being leased by Synta. With respect to the new space, the Agreement is effective as of June 9, 2011, and with respect to the existing space the Agreement is effective as of December 1, 2011. The Agreement expires on November 30, 2016, but Synta has the option to extend the Agreement for two consecutive five-year terms by giving written notice at least nine months prior to the scheduled expiration of the Agreement. From December 1, 2011 through November 30, 2014, Synta will pay rent of \$844,800 per year, and from December 1, 2014 through November 30, 2016, Synta will pay rent of \$883,200 per year.

Synta intends to file the Agreement as an exhibit to its Quarterly Report on Form 10-Q for the quarter ending June 30, 2011.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

SYNTA PHARMACEUTICALS CORP.

Dated: June 15, 2011

/s/ Keith S. Ehrlich

Keith S. Ehrlich
Vice President, Finance and Administration
Chief Financial Officer