
**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 23, 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 23, 2011, Synta Pharmaceuticals Corp. (“Synta”) entered into a First Amendment (the “Amendment”) to the Lease Agreement, dated December 14, 2006, by and between ARE-MA Region No. 24, LLC and Synta (the “Lease Agreement”), pursuant to which Synta leases 15,000 square feet of office and laboratory space located at 45-47 Wiggins Avenue, Bedford, Massachusetts.

The Amendment extends the term of the lease from October 31, 2011 until October 31, 2016, which Synta has the option to extend for an additional two years by providing written notice at least nine months prior to the scheduled expiration of the term. Synta currently pays base rent of approximately \$31,557 per month under the Lease Agreement, which amount will be increased on November 1, 2011 and on each annual anniversary thereafter during the term by 3.5%. Notwithstanding the foregoing, the base rent will be abated for the period commencing on November 1, 2011 through January 31, 2012, provided that Synta is not in default under and as defined in the Lease Agreement.

Synta intends to file the Amendment 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 27, 2011

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