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 10, 2009

SYNTA PHARMACEUTICALS CORP.

(Exact name of registrant as specified in its charter)

Delaware	**001-33277**	**04-3508648**
(State or other jurisdiction of incorporation)	(Commission File Number)	(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))

Item 1.02 Termination of a Material Definitive Agreement.

On June 10, 2009, Synta Pharmaceuticals Corp. ("Synta") received written notice from SmithKline Beecham Corporation (d/b/a GlaxoSmithKline) ("GSK") of GSK's intent to terminate the Collaborative Development, Commercialization and License Agreement, dated October 8, 2007, as amended on June 27, 2008, between Synta and GSK for the joint development and commercialization of elesclomol, one of Synta's oncology drug candidates (the "Collaboration Agreement"). The decision to terminate the Collaboration Agreement follows the suspension of Synta's global Phase 3 clinical trial of elesclomol plus paclitaxel in metastatic melanoma, called the SYMMETRY[SM] trial, announced on February 26, 2009. The termination of the Collaboration Agreement will be effective no later than September 10, 2009.

In accordance with the termination provisions of the Collaboration Agreement, all rights to the elesclomol program will be returned to Synta as of the effective date of termination. Synta may continue to develop elesclomol alone or with another partner and Synta may pay GSK a low single-digit royalty on any potential future sales of elesclomol. Synta will not incur any termination costs or penalties as a result of the termination of the Collaboration Agreement. In the period the termination is effective, Synta expects to have approximately $116 million in deferred revenue from up-front payments and milestones received under the Collaboration Agreement, all of which is expected to be recorded as non-cash revenue as Synta will have no further obligation for deliverables under the Collaboration Agreement.

Synta's entry into the Collaboration Agreement was reported in its Current Report on Form 8-K filed with the Securities and Exchange Commission on October 12, 2007, which is incorporated herein by reference.

A copy of the press release announcing the termination of the Collaboration Agreement issued on June 15, 2009 is filed as Exhibit 99.1 to this Current Report on Form 8-K.

Item 9.01 Financial Statements and Exhibits.

(d) The following exhibit is filed with this report:

Exhibit No.	Description
99.1	Press Release issued on June 15, 2009

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, 2009

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

Exhibit 99.1

Synta Pharmaceuticals Corp.
45 Hartwell Avenue
Lexington, MA 02421

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fax: 781 274 8228

www.syntapharma.com

SYNTA AND GSK END ELESCLOMOL COLLABORATION AGREEMENT

Worldwide rights to elesclomol to return to Synta

LEXINGTON, MA — June 15, 2009 — Synta Pharmaceuticals Corp. (NASDAQ: SNTA), a biopharmaceutical company focused on discovering, developing, and commercializing small molecule drugs to treat severe medical conditions, announced today that GlaxoSmithKline (GSK) and Synta will end the collaborative agreement for the clinical development and commercialization of elesclomol effective no later than September 10, 2009. Worldwide rights to elesclomol will revert to Synta and Synta may pay GSK a low single-digit royalty on any potential future sales of elesclomol.

"We appreciate GSK's contributions to this program and understand their decision," said Safi R. Bahcall, Ph.D., President and Chief Executive Officer of Synta. "We will be meeting with medical and scientific advisors to review the data from the SYMMETRY trial and additional results later this year, and will use this guidance to inform our choices for a path forward for the program. We expect to report more on additional data and plans for the program later this year."

"While we are continuing to evaluate the potential of elesclomol, we are focusing our resources on the other programs in our portfolio, particularly our Hsp90 program for which we expect to initiate a number of new clinical trials in the near term," continued Dr. Bahcall. "With a strong cash position, a portfolio of first-in-class and best-in-class programs, and a productive discovery engine, we are excited about the potential of our pipeline and are committed to realizing the potential of these programs to benefit patients."

Conference Call and Webcast Information

Synta will conduct a conference call to provide a corporate update today at 8:30 a.m. (ET). The conference call will be webcast live over the Internet and can be accessed by logging on to the "Investors" section of the Synta Pharmaceuticals website, www.syntapharma.com, prior to the event.

The call also can be accessed by dialing (877) 407-8035 or (201) 689-8035 prior to the start of the call. For those unable to join the live conference call, a replay will be available from 1:00 p.m. (ET) today through midnight (ET) on June 21. To access the replay, dial (877) 660-6853 or (201) 612-7415 and refer to both account number 286 and conference ID 325811. The webcast also will be archived on the Company's website.

About Synta Pharmaceuticals

Synta Pharmaceuticals Corp. is a biopharmaceutical company focused on discovering, developing, and commercializing small molecule drugs to extend and enhance the lives of

patients with severe medical conditions, including cancer and chronic inflammatory diseases. Synta has a unique chemical compound library, an integrated discovery engine, and a diverse pipeline of clinical- and preclinical-stage drug candidates with distinct mechanisms of action and novel chemical structures. All Synta drug candidates were invented by Synta scientists using our compound library and discovery capabilities. For more information, please visit www.syntapharma.com.

Safe Harbor Statement

This media release may contain forward-looking statements about Synta Pharmaceuticals Corp. Such forward-looking statements can be identified by the use of forward-looking terminology such as “will”, “would”, “should”, “expects”, “anticipates”, “intends”, “plans”, “believes”, “may”, “estimates”, “predicts”, “projects”, or similar expressions intended to identify forward-looking statements. Such statements, including statements relating to the timing, developments and progress of our clinical and preclinical programs, reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such forward-looking statements, including those described in “Risk Factors” of our Form 10-K for the year ended December 31, 2008 as filed with the Securities and Exchange Commission. Synta undertakes no obligation to publicly update forward-looking statements, whether because of new information, future events or otherwise, except as required by law.

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