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): September 22, 2009

Protalix BioTherapeutics, Inc.

(Exact name of registrant as specified in its charter)

Florida	**000-33357**	**65-0643773**
(State or other jurisdiction of incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

2 Snunit Street **Science Park, POB 455** **Carmiel, Israel**	**20100**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code +972-4-988-9488

(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 (see General Instruction A.2. below):

☐ 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 8.01. Other Events

On September 22, 2009, Protalix BioTherapeutics, Inc. (the "Company") issued a press release reporting preclinical data on pr-antiTNF, a biosimilar version of etanercept (Enbrel™). A copy of the press release is attached hereto as Exhibit 99.1.

Item 9.01. Financial Statements and Exhibits

(d) Exhibits

99.1 Press release dated September 22, 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.

PROTALIX BIOTHERAPEUTICS, INC.

Date: September 24, 2009

By: /s/ David Aviezer
Name: David Aviezer, Ph.D.
Title: President and
Chief Executive Officer

Protalix Reports Preclinical Data on Anti-TNF Follow-on Biologic Arthritis Drug

CARMIEL, Israel, September 22, 2009 (Business Wire) — Protalix Biotherapeutics, Inc. (NYSE-Amex: PLX), reported today preclinical data on pr-antiTNF, a biosimilar version of etanercept (Enbrel™). Produced using the Company's proprietary ProCellEx™ technology, pr-antiTNF is a plant cell expressed recombinant fusion protein made from the soluble form of the human TNF receptor (TNFR), fused to the Fc component of a human antibody IgG1 domain. Pr-antiTNF has an identical amino acid sequence to Enbrel™.

In vitro and preclinical animal studies have demonstrated that pr-antiTNF exhibits similar activity to Enbrel™. Specifically, pr-antiTNF binds TNF alpha thereby inhibiting it from binding to cellular surface TNF receptors and protects L929 cells from TNF-induced apoptosis in a dose-dependent manner. In a proof-of-concept in vivo study using an established arthritis animal model, pr-antiTNF administered intraperitoneally significantly improved the clinical arthritis parameters associated with this accepted arthritis mouse model including joint inflammation, swelling and tissue degradation. Data from the collagen induced arthritis animal model studies are expected to be presented at an upcoming scientific conference.

"We are very encouraged by the preclinical data generated from our pr-antiTNF thus far," said Dr. Yoseph Shaaltiel, Executive Vice President, R&D of Protalix. "These data further validate our ProCellEx™ technology and its ability to produce a wide range of complex therapeutic proteins in plant cells. Given our highly efficient and cost effective manufacturing process, we feel the Company is well positioned to be an active participant in the biosimilar market."

About Protalix BioTherapeutics

Protalix is a biopharmaceutical company. Its goal is to become a fully integrated biopharmaceutical company focused on the development and commercialization of proprietary recombinant therapeutic proteins to be expressed through its proprietary plant cell based expression system. Protalix's ProCellEx(TM) presents a proprietary method for the expression of recombinant proteins that Protalix believes will allow for the cost-effective, industrial-scale production of recombinant therapeutic proteins in an environment free of mammalian components and viruses. Protalix completed a Phase III pivotal study for its lead product candidate, UPLYSO (prGCD), to be used in enzyme replacement therapy for Gaucher disease, a rare and serious lysosomal storage disorder in humans with severe and debilitating symptoms. Protalix and the U.S. Food and Drug Administration agreed on the final design of the pivotal Phase III clinical trial through the FDA's Special Protocol Assessment (SPA) process. Protalix is also advancing additional recombinant biopharmaceutical drug development programs.

Safe Harbor Statement:

To the extent that statements in this press release are not strictly historical, all such statements are forward-looking, and are made pursuant to the safe-harbor provisions of the Private

Securities Litigation Reform Act of 1995. These forward-looking statements are subject to known and unknown risks and uncertainties that may cause actual future experience and results to differ materially from the statements made. These statements are based on our current beliefs and expectations as to such future outcomes. Drug discovery and development involve a high degree of risk. Factors that might cause material differences include, among others, risks relating to: the successful preclinical development of our product candidates; the completion of clinical trials; the review process of the FDA, foreign regulatory bodies and other governmental regulation, including the FDA's review of any filings we make in connection with the treatment protocol; delays in the FDA's or other health regulatory authorities' approval of any applications we file or refusals to approve such filings; refusals by such regulatory authorities to approve the marketing and sale of a drug product even after acceptance of an application we file for any such drug product; the identification of lead compounds; the risk that we may fail to satisfy certain conditions relating to grants we have received from the Office of the Chief Scientist of Israel's Ministry of Industry and Trade which may lead to our being required to refund grants previously received together with interest and penalties; the risk that the Office of the Chief Scientist may not deliver to us all of the funds awarded to us; uncertainties related to the ability to attract and retain partners for our technologies and products under development; and other factors described in our filings with the Securities and Exchange Commission. Under the approved treatment protocol, UPLYSO (prGCD) might be provided only to a limited number of patients and only for a limited time. Pharmaceutical and biotechnology companies have suffered significant setbacks in advanced clinical trials, even after promising results in earlier clinical trials or in preliminary findings for such clinical trials. The FDA's approval of the treatment protocol for UPLYSO (prGCD) or the fast track approval will not have any effect on the FDA's approval of any NDA we file with respect to UPLYSO (prGCD), if any, and the review by the FDA of any data from the Phase III clinical development programs in connection with the approval of the treatment protocol will not have any effect on the FDA's subsequent review of our complete Phase III clinical trial data in the future. The statements are valid only as of the date hereof and we disclaim any obligation to update this information.

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