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): **August 7, 2007**

PROTALIX BIOTHERAPEUTICS, INC.

(Exact Name of Registrant as Specified in Its Charter)

Florida	
(State or Other Jurisdiction of Incorporation)	
000-27836	**65-0643773**
(Commission File Number)	(IRS Employer Identification No.)
2 Snunit Street Science Park POB 455 Carmiel, Israel	**21000**
(Address of Principal Executive Offices)	(Zip Code)

+972-4-988-9488
(Registrant's Telephone Number, Including Area Code)

(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):

o Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

o Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

o Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

o Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 1.01. Entry into a Material Definitive Agreement.

On August 8, 2007, Protalix BioTherapeutics, Inc. (the "Company") announced that it had signed an agreement (the "Yissum Agreement") with the Yissum Research and Development Company, the technology transfer arm of the Hebrew University of Jerusalem, Israel, and the Boyce Thompson Institute for Plant Research, at Cornell University, Ithaca, New York, to develop a proprietary plant cell-based acetylcholinestrase (AChE) and its molecular variants for the use in several therapeutic and prophylactic indications, including a biodefense program. Pursuant to the Yissum Agreement, the Company has received an exclusive worldwide right and license to certain technology, including patents and additional patent applications relating to AChE (the "Licensed Technology"), for all therapeutic and prophylactic indications as well as an exclusive license not limited to such indications with respect to certain of these patents and patent applications. The Company has the right to grant sublicenses under its license subject to certain conditions. As consideration for the license, the Company agreed to pay certain regulatory milestone payments, a sales-based milestone payment, a license maintenance fee, and a royalty on net sales of any products developed with the Licensed Technology. The Company cannot provide any assurance that it will receive regulatory approval for any product that may be developed under the Yissum Agreement.

This summary of the Yissum Agreement is not complete and is qualified by reference to the entire agreement, a copy of which will be filed with the Securities and Exchange Commission. The Company intends to request confidential treatment for portions of the agreement.

Item 8.01. Other Events

On August 8, 2007, the Company issued a press release announcing the Yissum Agreement. A copy of the press release is attached as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated herein by reference.

Item 9.01. Financial Statements and Exhibits

(d) Exhibits

99.1 Press release dated August 8, 2007

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: August 10, 2007

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

Protalix BioTherapeutics Signs Agreement to License Acetylcholinestrase Development Technology

Protalix BioTherapeutics to Explore Biodefense and Civilian Applications with Researchers from Hebrew University of Jerusalem

Carmiel, Israel – August 8, 2007 - Protalix BioTherapeutics, Inc. (AMEX: PLX), today announced it has signed an agreement with the Yissum Research and Development Company, the technology transfer arm of the Hebrew University of Jerusalem, Israel, and the Boyce Thompson Institute for Plant Research, at Cornell University, Ithaca, New York, to develop a proprietary plant cell-based acetylcholinestrase (AChE) and its molecular variants for the use in several therapeutic and prophylactic indications, including a biodefense program.

Under the agreement, Protalix has licensed the technology underlying acetylcholinestrase from Hebrew University and Boyce Thompson.

The initial feasibility research on AchE has demonstrated the potential for the enzyme and its variants in multiple therapeutic fields. In vitro experiments have also shown that the AChE protein expressed in Protalix's plant cell ProCellEx™ system demonstrates promising biological activity at both the biochemical and the cellular levels.

The work is based on research conducted in the laboratory of Professor Hermona Soreq, Dean of Faculty of Science at the Hebrew University of Jerusalem, Israel, a world leader in the field of acetylcholinestrase research.

Professor Soreq said, "After many years of research, we have come to understand the many translational benefits which can be achieved from using the AChE protein for therapeutic applications. We look forward to working with the Protalix team, and we are confident that its plant cell-based technology enhances our ability to address the many applications for this enzyme and its specific variants."

Dr. David Aviezer, President and CEO of Protalix, added, "We are excited to be able to collaborate with Professor Soreq and her colleagues on this project, and that they recognize the value of Protalix's plant cell-based technology platform. We believe the development program for AChE has significant potential, both in the growing biodefense market and in the civilian pharmaceutical arena."

Nava Swersky Sofer, President & CEO of Yissum noted, "We are delighted to collaborate with Protalix to commercialize the discoveries made by Professor Soreq and her team. Protalix's technology platform is an excellent fit for Professor Soreq's discoveries in the field of AChE for use in the biodefense area and in other therapeutic applications, and we also feel confident that the Protalix's strong team can develop these technologies to products. Yissum is particularly pleased to bring another one of Professor Soreq's discoveries to a commercial partnership with a strong partner."

About Protalix BioTherapeutics, Inc.

Protalix is a clinical stage biopharmaceutical company. Its goal is to become a fully integrated biopharmaceutical company focused on 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™ presents a proprietary method for the expression of recombinant proteins that Protalix believes is safe and scalable and will allow for the cost-effective, industrial-scale production of recombinant therapeutic proteins. Protalix has received written notice from the United States Food and Drug Administration that it may initiate a phase III clinical trial in the United States of its lead product candidate, prGCD, for its enzyme replacement therapy for Gaucher disease, a lysosomal storage disorder in humans, and has reached an agreement with the FDA on the final design of its pivotal phase III clinical trial through the FDA's Special Protocol Assessment (SPA) process. Protalix is also advancing additional recombinant biopharmaceutical drug development programs.

About Yissum:

Yissum (http://www.yissum.co.il) - the technology transfer company of the Hebrew University of Jerusalem - was founded in 1964 to protect the University's intellectual property and commercialize it. Today, more than $1 Billion in annual sales are generated by products based on Hebrew University technologies licensed out by Yissum. Ranked among the top technology transfer companies in the world, Yissum has registered 5,000 patents covering 1,400 inventions, licensed 400 technologies and spun out 60 companies.

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 such a material difference include, among others, uncertainties related to the ability to attract and retain partners for our technologies and products under development, the identification of lead compounds, the successful preclinical development of our products, the completion of clinical trials, the review process of the FDA, foreign regulatory bodies and other governmental regulation, and other factors described in our filings with the Securities and Exchange Commission. The statements are valid only as of the date hereof and we disclaim any obligation to update this information.

For additional information, contact Protalix BioTherapeutics at:
investors@protalix.com

AMEX IR Alliance for Protalix BioTherapeutics
Lee Roth / David Burke
212-896-1209 / 1258
lroth@kcsa.com / dburke@kcsa.com