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): May 9, 2007

TARGACEPT, INC.
(Exact name of registrant as specified in its charter)

Delaware	**000-51173**	**56-2020050**
(State or other jurisdiction of incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

200 East First Street, Suite 300 **Winston-Salem, North Carolina** **(Address of principal executive offices)**	**27101** **(Zip Code)**

(336) 480–2100
Registrant's telephone number, including area code

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 2.02 Results of Operations and Financial Condition.

On May 9, 2007, Targacept, Inc. issued a press release relating to its financial results for the first quarter ended March 31, 2007. The full text of the press release is furnished as Exhibit 99.1 to this Current Report on Form 8-K.

The information in this Current Report on Form 8-K (including Exhibit 99.1) shall not be deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934 (the "Exchange Act") or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act, except as expressly set forth by specific reference in such a filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

The following exhibit is furnished with this report:

Exhibit Number	Description
99.1	Press release dated May 9, 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.

TARGACEPT, INC.

Date: May 9, 2007

/s/ Alan A. Musso

Alan A. Musso
Vice President, Chief Financial Officer,
Secretary and Treasurer

EXHIBIT INDEX

Exhibit Number	Description
99.1	Press release dated May 9, 2007

Exhibit 99.1

Targacept Reports First Quarter 2007 Financial Results

Winston-Salem, North Carolina, May 9, 2007 – Targacept, Inc. (Nasdaq: TRGT), a clinical-stage biopharmaceutical company developing a new class of drugs known as NNR Therapeutics™, today reported its financial results for the first quarter ended March 31, 2007.

Targacept reported a net loss of $4.8 million for the first quarter of 2007, compared to a net loss of $5.2 million for the first quarter of 2006. As of March 31, 2007, cash, cash equivalents and short-term investments totaled $67.8 million.

“During the first quarter, we made demonstrable progress with our pipeline of four clinical-stage and three preclinical product candidates,” said J. Donald deBethizy, Ph.D., Targacept’s President and Chief Executive Officer. “Our lead product candidate, AZD3480 (TC-1734), is targeted for broad development, with Phase II clinical trials in Alzheimer’s disease and cognitive deficits in schizophrenia planned for initiation mid-year by our collaborator AstraZeneca. We also remain excited about the prospects for our depression program following the favorable results that we achieved in our Phase II TRIDMAC™ trial in late 2006. Our product candidate TC-2216 is in development as a monotherapy, and we are also moving forward with development plans for an augmentation therapy.”

Recent Highlights

- Initiated a Phase I clinical trial of TC-2216, a product candidate as a monotherapy for depression and anxiety disorders;
- Conducted additional preclinical testing and pharmaceutical development of TC-5214, an enantiomer of mecamylamine hydrochloride that the company expects to elect to advance into clinical development as an augmentation therapy for major depression;
- Continued dosing third molar extraction patients in a Phase II clinical trial of TC-2696, a product candidate for acute post-operative pain, and remain on track for completion of the trial in 2H07;
- Strengthened the company’s pain program with the selection of TC-6499, a product candidate that has demonstrated analgesic activity in multiple preclinical models and is planned to be developed initially for neuropathic pain;
- Progressed TC-5619, the most advanced compound in the company’s chemically diverse alpha7 NNR program, toward the planned initiation of clinical development in 2Q07;
- Received a $20 million milestone payment from AstraZeneca in January;
- Initiated a 13,000-square-foot expansion of the company’s leased facility in Winston-Salem to accommodate growth driven by the continued progress in the AstraZeneca collaboration and the advancement of Targacept’s robust product pipeline; and
- Recognized as one of the “Best Places to Work in Industry” for 2007 by *The Scientist* magazine in its 5th annual survey, placing 10th overall out of nearly 250 companies.

Financial Results

Targacept reported a net loss of $4.8 million for the first quarter of 2007, compared to a net loss of $5.2 million for the first quarter of 2006. The lower net loss was primarily attributable to increased collaboration revenue and interest income partially offset by increased research and development expenses.

Revenue totaled $2.1 million for the first quarter of 2007, compared to $606,000 for the comparable period in 2006. This increase was primarily due to the recognition of $1.7 million in revenue under Targacept's collaboration agreement with AstraZeneca for the 2007 period, compared to $271,000 for the 2006 period.

Research and development expenses totaled $6.2 million for the first quarter of 2007, compared to $4.8 million for the comparable period in 2006. The increase in research and development expenses was principally attributable to increases in payments to third parties for research and development services and greater occupancy, salary and benefit, recruitment, supply and infrastructure costs incurred in connection with increased activity in Targacept’s preclinical research collaboration with AstraZeneca and advancements in its pipeline of clinical and late preclinical product candidates.

General and administrative expenses totaled $1.3 million for the first quarter of 2007, compared to $1.2 million for the comparable period in 2006.

Interest income, net of interest expense, totaled $850,000 for the first quarter of 2007, compared to $275,000 for the comparable period in 2006. The increase was attributable to a substantially higher average cash balance during the 2007 period following completion of Targacept’s initial public offering in April 2006, the receipt of a $20.0 million milestone payment from AstraZeneca in January 2007 and, to a lesser extent, higher short-term interest rates.

Conference Call

As previously announced, Targacept will be hosting a conference call and webcast today, May 9, 2007, at 5:00 p.m. EDT. A live webcast of the conference call will be available on the Investor Relations page of Targacept's website, www.targacept.com. An archived version of the webcast will also be available on the Event Calendar section of the Investor Relations page of Targacept's website for at least two weeks following the call.

The first quarter earnings conference call may be accessed by dialing 866-831-6247 for domestic participants and 617-213-8856 for international callers (reference passcode 51366304). A replay of the conference call may be accessed through May 23, 2007 by dialing 888-286-8010 for domestic callers and 617-801-6888 for international callers (reference passcode 70746415).

About Targacept

Targacept is a clinical-stage biopharmaceutical company that discovers and develops NNR Therapeutics™, a new class of drugs for the treatment of central nervous system diseases and disorders. Targacept's product candidates selectively modulate neuronal nicotinic receptors that serve as key regulators of the nervous system to promote therapeutic effects and limit adverse side effects. Targacept has product candidates in development for Alzheimer's disease and cognitive deficits in schizophrenia, pain, and depression and anxiety disorders, as well as multiple preclinical programs. Targacept is located in Winston-Salem, North Carolina. Targacept's news releases are available on its website at www.targacept.com.

Forward-Looking Statements

Any statements in this press release about strategies, prospects, plans, expectations or objectives for Targacept, Inc., including, without limitation, statements regarding the progress, timing and scope of the research and development of our product candidates or related regulatory filings or clinical trials, our future operations, financial position, revenues or costs, and all other statements that are not purely historical in nature, constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Without limiting the foregoing, the words "may," "will," "could," "would," "should," "expect," "intend," "plan," "anticipate," "believe," "estimate," "predict," "project," "potential," "promise," "continue," "ongoing" and similar expressions are intended to identify forward-looking statements. Actual results may differ materially from those expressed or implied by forward-looking statements as a result of various important factors, including our critical accounting policies and risks and uncertainties relating to: the amount and timing of resources that AstraZeneca devotes to the development of AZD3480 (TC-1734); AstraZeneca's right in the future to terminate the preclinical research collaboration that we and AstraZeneca are currently conducting prior to the end of the planned four-year term; the position of applicable regulatory authorities with regard to a treatment combination that includes mecamylamine hydrochloride, which is a racemate, as compared to one of its constituent enantiomers such as TC-5214; the results of clinical trials and non-clinical studies and assessments with respect to our current and future product candidates in development; the conduct of such trials, studies and assessments, including the performance of third parties that we engage to execute them and difficulties or delays in the completion of patient enrollment or data analysis; the timing and success of submission, acceptance and approval of regulatory filings; our ability to obtain substantial additional funding and our ability to establish additional strategic collaborations. These and other risks and uncertainties are described in greater detail under the heading "Risk Factors" in our most recent Annual Report on Form 10-K and in other filings that we make with the Securities and Exchange Commission. As a result of the risks and uncertainties, the results or events indicated by the forward-looking statements may not occur. We caution you not to place undue reliance on any forward-looking statement.

In addition, any forward-looking statements in this release represent our views only as of the date of this release and should not be relied upon as representing our views as of any subsequent date. We anticipate that subsequent events and developments may cause our views to change. Although we may elect to update these forward-looking statements publicly at some point in the future, whether as a result of new information, future events or otherwise, we specifically disclaim any obligation to do so, except as required by applicable law. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

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TARGACEPT, INC

Unaudited Condensed Statements of Operations

(in thousands, except share and per share amounts)

	Three Months Ended March 31, 2007	Three Months Ended March 31, 2006
Total operating revenues	$ 2,051	$ 606
Operating expenses		
Research and development	6,190	4,760
General and administrative	1,338	1,168
Cost of product sales	166	191
Total operating expenses	7,694	6,119
Operating income (loss)	(5,643)	(5,513)
Interest income, net	850	275
Net income (loss)	(4,793)	(5,238)
Preferred stock accretion	—	(2,803)
Net income (loss) attributable to common stockholders	$ (4,793)	$ (8,041)
Net income (loss) per share attributable to common stockholders—basic and diluted	$ (0.25)	$ (29.42)
Weighted average common shares outstanding- basic and diluted	19,136,796	273,368
Pro forma net loss per share assuming conversion of preferred stock—basic and diluted (1)		$ (0.27)
Pro forma weighted average common shares outstanding—basic and diluted		19,105,383

(1) Unaudited pro forma basic and diluted net loss per share is computed using the weighted average number of common shares outstanding, including the pro forma effects of the automatic conversion of all outstanding preferred stock into shares of Targacept's common stock effective upon the completion of Targacept's initial public offering as if such conversion had occurred at the date of the original issuance and giving effect to the sale of 5,000,000 shares of common stock in the IPO.

TARGACEPT, INC

Unaudited Condensed Balance Sheets

(in thousands)

	March 31, 2007	December 31, 2006
Cash and cash equivalents	$ 55,180	$ 41,744
Short-term investments	12,606	12,445
Collaboration receivables and other current assets	3,322	24,664
Property and equipment, net	2,337	2,040
Other assets, net	466	475
Total assets	$ 73,911	$ 81,368
Current liabilities	$ 6,707	$ 8,949
Noncurrent liabilities	6,698	7,420
Total stockholders' equity	60,506	64,999
Total liabilities and stockholders' equity	$ 73,911	$ 81,368