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 17, 2012

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 8.01 Other Events.

On September 17, 2012, Targacept, Inc. issued a press release reporting top-line results from a Phase 2 clinical trial of its product candidate TC-5619 as a treatment for inattentive-predominant attention deficit/hyperactivity disorder. The press release also reported Targacept's plans regarding investment in its nicotinic pipeline and a reduction in workforce. The full text of the press release is attached as Exhibit 99.1 to this Current Report on Form 8-K.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit Number	Description
99.1	Press release dated September 17, 2012

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: September 17, 2012

/s/ Peter A. Zorn

Peter A. Zorn
Senior Vice President, Legal Affairs, General Counsel and Secretary

EXHIBIT INDEX

Exhibit Number	Description
99.1	Press release dated September 17, 2012

Exhibit 99.1

Targacept Announces Top-Line Results from Phase 2 Trial of TC-5619 in Adults with Inattentive-Predominant ADHD

Winston-Salem, NC – September 17, 2012—Targacept, Inc. (NASDAQ: TRGT) today announced top-line results from a Phase 2 trial of TC-5619 as a treatment for inattentive-predominant attention deficit/hyperactivity disorder (ADHDi). In the trial, TC-5619 did not meet the primary outcome measure, change from baseline on the inattention subscale of the Conners' Adult ADHD Rating Scale-Investigator-Rated (CAARS-INV), after four weeks of treatment versus placebo. Across the study measures, patients in the placebo dose group consistently improved more than patients in the TC-5619 dose groups. TC-5619 exhibited a placebo-like safety and tolerability profile in the study.

"We are disappointed that TC-5619 did not meet our goal in this ADHDi study. Based on these results, we have made the determination that we will not pursue further development of TC-5619 in ADHD," said Mark Skaletsky, Chairman of Targacept's Board of Directors. "Under these circumstances, we are taking additional steps to more closely align our resources with our current operational plan and emphasize the efficient use of Targacept's capital. We will limit our investment in our nicotinic pipeline to our ongoing or previously announced clinical programs until the search for a new CEO is successfully completed, and we will implement a further reduction in force. Targacept is immensely grateful for the contributions of each of our employees, and we can only make this difficult decision based on our commitment to maximizing the future potential of the company's assets."

About the Phase 2 Trial

The Phase 2 study was a double blind, placebo controlled, randomized parallel group trial conducted at 13 sites in the United States. The primary outcome measure was change from baseline on the inattention subscale of the Conners' Adult ADHD Rating Scale-Investigator-Rated (CAARS-INV), after four weeks of treatment versus placebo. The study randomized 175 patients with ADHDi, ages 18 to 65, of which 153 completed the study. The study design provided for a four-week screening period after which patients were randomized into one of three cohorts and received either placebo or one of two doses of TC-5619 (5mg or 25mg) once daily for four weeks in a ratio of 2:1:1 (placebo: low dose: high dose). The study concluded with a two-week follow-up period. The study also assessed the safety and tolerability of TC-5619.

About Targacept

Targacept is developing a diverse pipeline of innovative NNR Therapeutics™ for difficult-to-treat diseases and disorders of the nervous system. NNR Therapeutics selectively modulate the activity of specific neuronal nicotinic receptors, unique proteins that regulate vital biological functions that are impaired in various disease states. Targacept's clinical pipeline includes multiple Phase 2 product candidates, all representing first-in-class opportunities. Targacept leverages its scientific leadership and proprietary drug discovery platform Pentad™ to fuel its pipeline and attract significant collaborations with global pharmaceutical companies. For more information, please visit www.targacept.com.

TARGACEPT
Building Health, Restoring Independence®

Forward-Looking Statements

This press release includes “forward-looking statements” made under the provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include statements, other than statements of historical fact, regarding without limitation Targacept’s plans, expectations or future operations, financial position, revenues, costs or expenses. Actual results, performance or experience may differ materially from those expressed or implied by any forward-looking statement as a result of various important factors, including without limitation the risks and uncertainties described under the heading “Risk Factors” in Targacept’s most recent Annual Report on Form 10-K and in other filings that it makes 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. Targacept cautions you not to place undue reliance on any forward-looking statement.

In addition, any forward-looking statement in this press release represents Targacept’s views only as of the date of this press release and should not be relied upon as representing its views as of any subsequent date. Targacept disclaims any obligation to update any forward-looking statement, except as required by applicable law.

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