

**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 15, 2008

TARGACEPT, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation)

000-51173
(Commission File Number)

56-202050
(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))
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Item 7.01 Regulation FD Disclosure.

On a conference call held by Targacept, Inc. on September 15, 2008 to discuss the results of a Phase 2b clinical trial of AZD3480 in mild to moderate Alzheimer's disease, a Targacept official inadvertently stated in response to a question from a third-party participant that all of the three doses of AZD3480 tested in the trial had shown improvement as compared to placebo on ADAS-Cog, the trial's primary outcome measure. This statement was made in error. In fact, one of the three doses of AZD3480 showed improvement as compared to placebo on ADAS-Cog. As disclosed, neither the active comparator donepezil nor AZD3480 met the trial's criteria for statistical significance on ADAS-Cog.

The information in this Current Report on Form 8-K 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.

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.

Date: September 16, 2008

TARGACEPT, INC.

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