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): April 30, 2010

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 **27101**
(Address of principal executive offices) **(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 1.01 Entry into a Material Definitive Agreement.

On April 30, 2010, Targacept, Inc. ("**Targacept**") and AstraZeneca AB ("**AstraZeneca**") entered into an amendment to their Collaborative Research and License Agreement dated December 27, 2005, as amended (the "**Agreement**"), to modify the terms of the Agreement as applied to Targacept's product candidate TC-5619 (the "**Amendment**").

Targacept has an ongoing Phase 2 clinical proof of concept trial of TC-5619 in cognitive dysfunction in schizophrenia, or CDS. Prior to the Amendment, upon completion of the ongoing CDS trial, AstraZeneca had an option to license TC-5619 for various conditions characterized by cognitive impairment on terms specified in the Agreement (the "**AstraZeneca Option**").

In conjunction with the Amendment, Targacept and AstraZeneca agreed to an expanded development program for TC-5619. As part of the expanded program, Targacept is to conduct, in addition to the ongoing CDS trial, a Phase 2 clinical proof of concept trial of TC-5619 in adults with attention deficit/hyperactivity disorder, or ADHD, and specified clinical and non-clinical studies of TC-5619 to support the potential advancement of TC-5619 into Phase 2 clinical development for Alzheimer's disease. Additionally, AstraZeneca is to conduct other specified non-clinical studies of TC-5619 to support potential Phase 2 clinical development for Alzheimer's disease. If TC-5619 has been licensed by AstraZeneca or remains subject to the AstraZeneca Option, any Phase 2 clinical development for Alzheimer's disease would be funded by AstraZeneca.

Under the Amendment, the AstraZeneca Option is now exercisable over a specified period triggered by the first achievement of clinical proof of concept for TC-5619, whether in CDS or ADHD, based on specified criteria. If TC-5619 does not achieve clinical proof of concept in CDS or ADHD, the AstraZeneca Option would be exercisable upon completion of the studies to be conducted by Targacept and AstraZeneca in support of the potential advancement of TC-5619 into Phase 2 clinical development for Alzheimer's disease. In that case, AstraZeneca would either (1) exercise the AstraZeneca Option and proceed with development of TC-5619 in any permitted cognitive disorder that it selects, (2) conduct a Phase 2 clinical proof of concept trial of TC-5619 in Alzheimer's disease based on a study design to be agreed upon by AstraZeneca and Targacept or (3) disclaim any further interest in TC-5619. If AstraZeneca elects to conduct a Phase 2 clinical proof of concept trial of TC-5619 in Alzheimer's disease and TC-5619 achieves clinical proof of concept, the AstraZeneca Option would become exercisable for a second time. If TC-5619 does not achieve clinical proof of concept in Alzheimer's disease but AstraZeneca remains interested in a potential license, the Agreement provides for Targacept and AstraZeneca to negotiate terms.

If AstraZeneca exercises the AstraZeneca Option, it would assume responsibility for and fund all development and commercialization for TC-5619 beyond the currently agreed upon development program. If AstraZeneca does not exercise the AstraZeneca Option the first time that TC-5619 achieves clinical proof of concept, whether in CDS, ADHD or Alzheimer's disease, or if AstraZeneca disclaims any further interest in TC-5619 under the circumstances described above, the AstraZeneca Option would no longer be exercisable and Targacept would retain all of its rights in TC-5619.

The Amendment restructures the financial terms of the Agreement applicable to TC-5619. AstraZeneca has agreed to make a non-creditable, non-refundable payment of $11 million to Targacept within five business days after the date of the Amendment. In addition, as restructured, if AstraZeneca exercises the AstraZeneca Option, AstraZeneca would now pay Targacept an exercise fee of $30 million, Targacept would now be eligible to receive additional payments of up to $212 million, contingent upon the achievement of development, regulatory, first commercial sale and first detail milestones for TC-5619 in three indications, and Targacept would remain eligible for stepped double-digit royalties on any future TC-5619 product sales for any indication.

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 6, 2010

/S/ PETER A. ZORN

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