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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For The Quarterly Period Ended September 30, 2008

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the Transition Period from _____ to _____

Commission File Number: 000-51173

Targacept, Inc.
(Exact Name of Registrant as Specified in its Charter)

Delaware	**56-2020050**
(State or Other Jurisdiction of Incorporation or Organization)	**(I.R.S. Employer Identification No.)**
200 East First Street, Suite 300 **Winston-Salem, North Carolina** **(Address of Principal Executive Offices)**	**27101** **(Zip Code)**

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

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐	Accelerated filer ☒	Non-accelerated filer ☐ (do not check if a smaller reporting company)	Smaller reporting company ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of October 31, 2008, the registrant had 24,964,373 shares of common stock, $0.001 par value per share, outstanding.

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TARGACEPT, INC.

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PART I. Financial Information

Cautionary Note Regarding Forward-Looking Statements

This quarterly report includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, which we refer to as the Exchange Act. For this purpose, any statements contained in this quarterly report, other than statements of historical fact, regarding: the progress or scope of the research and development of our product candidates, such as the number of subjects to be enrolled in or the timing for initiation or completion of any of our clinical trials, the indication for which any of our product candidates may be developed, or the timing for reporting of results from AstraZeneca's Phase 2b clinical trial of AZD3480 (TC-1734) in cognitive dysfunction in schizophrenia or for a decision by AstraZeneca whether to conduct additional clinical development of AZD3480 (TC-1734); any future payments that AstraZeneca or GlaxoSmithKline may make to us or our future operations, financial position, revenues, costs or expenses; or our strategies, prospects, plans, expectations or objectives are forward-looking statements made under the provisions of The Private Securities Litigation Reform Act of 1995. In some cases, words such as "may," "will," "could," "would," "should," "expect," "intend," "plan," "anticipate," "believe," "estimate," "predict," "project," "potential," "continue," "ongoing," "scheduled" or other comparable words identify forward-looking statements. Actual results, performance or experience 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: our dependence on the success of our collaboration with AstraZeneca and our alliance with GlaxoSmithKline; the amount and timing of resources that AstraZeneca devotes to completion of its Phase 2b clinical trial of AZD3480 (TC-1734) in cognitive dysfunction in schizophrenia; the significant control that AstraZeneca has over the development of AZD3480 (TC-1734); our ability to perform the research planned and budgeted for our preclinical research collaboration with AstraZeneca; our ability to discover and develop product candidates under our alliance with GlaxoSmithKline; the results of clinical trials and non-clinical studies and assessments with respect to our product candidates; 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 subject enrollment or data analysis; the timing and success of submission, acceptance and approval of regulatory filings; our ability to obtain substantial additional funding; our ability to establish additional strategic alliances and collaborations; and our ability to obtain, maintain and enforce patent and other intellectual property protection for our product candidates and discoveries. These and other risks and uncertainties are described in more detail under the caption "Risk Factors" in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2007 and in other filings that we make with the Securities and Exchange Commission, or SEC. 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.

Any forward-looking statements in this quarterly report represent our views only as of the date of this quarterly report 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, 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.

Item 1. Financial Statements

TARGACEPT, INC.

BALANCE SHEETS

	September 30, 2008 (unaudited)	December 31, 2007
ASSETS		
Current assets:		
Cash and cash equivalents	$ 61,501,842	$ 53,403,092
Short-term investments	32,245,872	33,636,687
Collaboration revenue and accounts receivable	2,844,761	4,197,479
Inventories	109,509	140,413
Prepaid expenses	1,968,716	1,035,324
Total current assets	98,670,700	92,412,995
Property and equipment, net	6,774,678	6,114,555
Intangible assets, net of accumulated amortization of $232,878 and $204,555 at September 30, 2008 and December 31, 2007, respectively	409,122	437,445
Total assets	$ 105,854,500	$ 98,964,995
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 1,870,571	$ 2,295,912
Accrued expenses	4,399,235	5,460,643
Current portion of long-term debt	1,442,812	918,596
Current portion of deferred rent incentive	42,068	42,068
Current portion of deferred license fee revenue	6,478,772	6,478,772
Total current liabilities	14,233,458	15,195,991
Long-term debt, net of current portion	3,756,208	1,685,874
Deferred rent incentive, net of current portion	119,192	150,742
Deferred license fee revenue, net of current portion	25,489,014	30,348,093
Total liabilities	43,597,872	47,380,700
Commitments and contingencies		
Stockholders' equity:		
Common stock, $0.001 par value, 100,000,000 shares authorized; 24,964,328 and 20,503,419 shares issued and outstanding at September 30, 2008 and December 31, 2007, respectively	24,964	20,504
Capital in excess of par value	246,698,218	215,798,337
Accumulated deficit	(184,466,554)	(164,234,546)
Total stockholders' equity	62,256,628	51,584,295
Total liabilities and stockholders' equity	$ 105,854,500	$ 98,964,995

See accompanying notes.

TARGACEPT, INC.

STATEMENTS OF OPERATIONS
(unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2008	2007	2008	2007
Operating revenues:				
Collaboration research and development	$ 2,351,686	$ 1,991,164	$ 7,246,296	$ 5,193,090
Milestones and license fees from collaborations	1,619,693	1,033,864	5,559,079	2,158,864
Product sales, net	164,005	101,299	551,179	445,960
Grant revenue	—	—	210,593	221,652
Net operating revenues	4,135,384	3,126,327	13,567,147	8,019,566
Operating expenses:				
Research and development (including stock-based compensation of $269,944 and $214,592 for the three months ended September 30, 2008 and 2007, respectively; and $824,180 and $643,758 for the nine months ended September 30, 2008 and 2007, respectively)	10,717,029	9,436,530	30,316,247	24,706,195
General and administrative (including stock-based compensation of $222,665 and $198,916 for the three months ended September 30, 2008 and 2007, respectively; and $695,457 and $1,702,444 for the nine months ended September 30, 2008 and 2007, respectively)	1,397,101	1,919,690	4,982,103	5,886,326
Cost of product sales	183,620	173,304	564,774	543,929
Total operating expenses	12,297,750	11,529,524	35,863,124	31,136,450
Loss from operations	(8,162,366)	(8,403,197)	(22,295,977)	(23,116,884)
Other income (expense):				
Interest income	579,314	1,080,920	2,248,370	2,781,936
Interest expense	(64,851)	(48,267)	(184,401)	(91,572)
Total other income (expense)	514,463	1,032,653	2,063,969	2,690,364
Net loss	$ (7,647,903)	$ (7,370,544)	$(20,232,008)	$(20,426,520)
Basic and diluted net loss per share	$ (0.31)	$ (0.37)	$ (0.82)	$ (1.05)
Weighted average common shares outstanding—basic and diluted	24,945,523	20,096,528	24,563,371	19,463,627

See accompanying notes.

TARGACEPT, INC.

STATEMENTS OF CASH FLOWS
(unaudited)

	Nine Months Ended September 30,	
	2008	2007
Operating activities		
Net loss	$(20,232,008)	$(20,426,520)
Adjustments to reconcile net loss to net cash (used in) provided by operating activities:		
Depreciation and amortization	1,312,475	636,604
Stock-based compensation expense	1,519,637	2,346,202
Recognition of deferred rent incentive	(31,550)	(31,550)
Changes in operating assets and liabilities:		
Collaboration revenue and accounts receivable	1,352,718	21,000,541
Inventories	30,904	15,572
Prepaid expenses and accrued interest receivable	(1,039,072)	(10,840)
Accounts payable and accrued expenses	(1,486,749)	(14,083)
Deferred license fee revenue	(4,859,079)	21,361,621
Net cash (used in) provided by operating activities	(23,432,724)	24,877,547
Investing activities		
Purchase of investments	(86,800,082)	(75,467,113)
Proceeds from sale of investments	88,296,577	49,554,193
Purchase of property and equipment	(1,944,275)	(1,942,031)
Net cash used in investing activities	(447,780)	(27,854,951)
Financing activities		
Proceeds from issuance of long-term debt	5,300,000	2,000,000
Principal payments on long-term debt	(2,705,450)	(537,721)
Proceeds from issuance of common stock	29,384,704	11,642,213
Net cash provided by financing activities	31,979,254	13,104,492
Net increase in cash and cash equivalents	8,098,750	10,127,088
Cash and cash equivalents at beginning of period	53,403,092	41,744,363
Cash and cash equivalents at end of period	$ 61,501,842	$ 51,871,451

See accompanying notes.

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS
September 30, 2008

1. The Company and Nature of Operations

Targacept, Inc., a Delaware corporation (the Company), was formed on March 7, 1997. The Company is a biopharmaceutical company engaged in the design, discovery and development of NNR Therapeutics™, a new class of drugs for the treatment of diseases and disorders of the central nervous system. The Company's NNR Therapeutics selectively target neuronal nicotinic receptors, or NNRs. Its facilities are located in Winston-Salem, North Carolina.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying unaudited financial statements have been prepared in accordance with accounting principles generally accepted in the United States, or GAAP, for interim financial information and the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements and should be read in conjunction with the Company's audited financial statements and notes thereto included in its Annual Report on Form 10-K for the year ended December 31, 2007. In the opinion of the Company's management, all adjustments, consisting of normal recurring adjustments, necessary for a fair presentation of its financial position, operating results and cash flows for the periods presented have been included. Operating results for the three and nine months ended September 30, 2008 and 2007 are not necessarily indicative of the results that may be expected for the full year, for any other interim period or for any future year.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts of assets, liabilities, revenues and expenses reported in the financial statements and accompanying notes. Actual results could differ from these estimates.

Fair Value Accounting

Effective January 1, 2008, the Company adopted Statement of Financial Accounting Standard, or SFAS, No. 157, *Fair Value Measurements*, or SFAS 157. SFAS 157 defines fair value, provides a consistent framework for measuring fair value under GAAP and expands fair value financial statement disclosure requirements. SFAS 157 does not require any new fair value measurements. SFAS 157 applies only to accounting pronouncements that already require or permit fair value measures, except for standards that relate to share-based payments such as SFAS No. 123 (revised 2004), *Share-Based Payment*, and related interpretations.

The valuation techniques of SFAS 157 are based on both observable and unobservable inputs. Observable inputs reflect readily obtainable data from independent sources, and unobservable inputs reflect the Company's market assumptions. SFAS 157 classifies these inputs into the following hierarchy:

Level 1 Inputs– Quoted prices for identical instruments in active markets.

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)
September 30, 2008

2. Summary of Significant Accounting Policies (continued)

Level 2 Inputs– Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and valuations whose inputs are observable or whose significant value drivers are observable.

Level 3 Inputs– Instruments with primarily unobservable value drivers.

As of September 30, 2008, the Company had $37,038,000 invested in available-for-sale marketable securities, comprised entirely of certificates of deposit and including $5,000,000 recorded as cash and cash equivalents because the original maturity is less than three months. The Company determines fair value for certificates of deposit through quoted market prices, or Level 1 inputs. The Company has also previously invested in student loan auction rate securities, or ARS. All of the Company's previously owned ARS were redeemed by the issuers of the underlying securities at full par value in June and July 2008. Prior to January 1, 2008, the Company determined fair value for student loan ARS based on quoted market prices in active markets for identical assets. However, based on failures of student loan ARS to settle at auction, the Company determined fair value for student loan ARS based on a discounted cash flow model for a portion of the three and nine months ended September 30, 2008. This model considered, among other things, the expected timing for successful auctions or refinancings in the future, the composition and quality of the underlying collateral and the creditworthiness of the issuer. Because these inputs were not observable, they were classified as Level 3 inputs under SFAS 157. The adoption of SFAS No. 157 had no effect on the valuation of the Company's available-for-sale marketable securities as of September 30, 2008.

The table below provides a reconciliation of the Company's fair value measurements that used Level 3 inputs for the three and nine months ended September 30, 2008:

	Three Months Ended September 30, 2008	Nine Months Ended September 30, 2008
Level 3 balance at beginning of period	$ —	$ —
Transfers into Level 3	—	16,750,000
Transfers out of Level 3	—	—
Fair value adjustments	—	—
Redemptions	—	(16,750,000)
Level 3 balance at end of period	$ —	$ —

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)
September 30, 2008

2. Summary of Significant Accounting Policies (continued)

Investments

In accordance with the Company's investment policy, cash is invested with prominent financial institutions in bank depository accounts, certificates of deposit, and institutional money market funds. The Company determines the appropriate classification of marketable securities at the time of purchase and reevaluates its designations as of each balance sheet date. All marketable securities owned during the three and nine months ended September 30, 2008 and 2007 were classified as available for sale. Interest and dividend income on investments are included in "Interest income." The cost of securities sold is based on the specific identification method.

Through July 2008, the Company had also invested surplus cash in student loan ARS. In June and July 2008, all of the Company's student loan ARS were redeemed by the issuers of the underlying securities at full par value. As of September 30, 2008, the Company does not own any student loan ARS.

Revenue Recognition

The Company uses revenue recognition criteria in Staff Accounting Bulletin No. 101, *Revenue Recognition in Financial Statements*, or SAB 101, as amended by Staff Accounting Bulletin No. 104, *Revision of Topic 13*, or SAB 104.

In determining the accounting for collaboration agreements, the Company follows the provisions of Emerging Issues Task Force, or EITF, Issue 00-21, *Revenue Arrangements with Multiple Deliverables*, or EITF 00-21, for multiple element revenue arrangements. EITF 00-21 provides guidance on whether an arrangement that involves multiple revenue-generating activities or deliverables should be divided into separate units of accounting for revenue recognition purposes and, if this division is required, how the arrangement consideration should be allocated among the separate units of accounting. If the arrangement constitutes separate units of accounting according to the EITF's separation criteria, a revenue recognition policy must be determined for each unit. If the arrangement constitutes a single unit of accounting, the revenue recognition policy must be determined for the entire arrangement.

Collaboration research and development revenue is earned and recognized as research is performed and related expenses are incurred. Non-refundable upfront fees, which may include initial payments upon commencement of the contractual relationship, payment representing a common stock purchase premium or payment to secure a right for a future license, are recorded as deferred license fee revenue and recognized into revenue as milestone and license fees from collaborations on a straight-line basis over the expected development period, to the extent such fees are attributable to a specific licensed product candidate, or otherwise over the expected period of the Company's performance obligations.

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)
September 30, 2008

2. Summary of Significant Accounting Policies (continued)

Revenue for non-refundable payments based on the achievement of collaboration milestones is recognized when the milestones are achieved if all of the following conditions are met: (1) achievement of the milestone event was not reasonably assured at the inception of the arrangement; (2) substantive effort is involved to achieve the milestone event; and (3) the amount of the milestone payment appears reasonable in relation to the effort expended, the other milestone payments in the arrangement and the related risk associated with achievement of the milestone event. If any of these conditions is not met, the milestone payment is recorded as deferred licensee fee revenue and recognized into revenue on a straight-line basis over the expected period of the Company's performance obligations.

Revenue for specific research and development costs that are reimbursable under collaboration agreements is recognized in accordance with EITF Issue 99-19, *Reporting Revenue Gross as a Principal Versus Net as an Agent*, and EITF Issue 01-14, *Income Statement Characterization of Reimbursements Received for "Out-of-Pocket" Expenses Incurred*. The revenue associated with these reimbursable amounts is reflected as a component of collaboration revenue and the costs associated with these reimbursable amounts is reflected as a component of research and development expenses.

Product sales revenue is recognized when goods are shipped, at which point title has passed, net of allowances for returns and discounts. Revenue from grants is recognized as the Company performs the work and incurs reimbursable costs in accordance with the objectives of the award.

Income Taxes

The Company uses the liability method in accounting for income taxes as required by SFAS No. 109, *Accounting for Income Taxes*, or SFAS 109. The Company follows Financial Accounting Standards Interpretation No. 48, *Accounting for Uncertainty in Income Taxes*, or FIN 48, which clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements in accordance with SFAS 109. Under SFAS No. 109, deferred tax assets and liabilities are recognized for operating loss and tax credit carryforwards and for the future tax consequences attributable to the differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in the results of operations in the period that includes the enactment date. A valuation allowance is recorded to reduce the carrying amounts of deferred tax assets unless it is more likely than not that such assets will be realized. FIN 48 prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. FIN 48 also provides guidance on de-recognition, classification, interest and penalties, accounting in interim periods, disclosures and transition. The Company's policy is to classify any interest recognized in accordance with FIN 48 as interest expense and to classify any penalties recognized in accordance with FIN 48 as an expense other than income tax expense.

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)
September 30, 2008

2. Summary of Significant Accounting Policies (continued)

The Company had no unrecognized tax benefits or associated interest or penalties either at adoption of FIN 48 on January 1, 2007 or as of September 30, 2008. Since the Company has incurred cumulative operating losses since inception, all tax years remain open to examination by major jurisdictions. The Company is eligible to receive a refundable research and development tax credit in lieu of claiming "bonus depreciation" for assets purchased and placed into service between March 31, 2008 and December 31, 2008 under the Housing and Economic Recovery Act of 2008. The Company does not expect the tax credit to have a material impact on its 2008 financial results.

Net Loss Per Share

The Company computes net loss per share in accordance with SFAS No. 128, *Earnings Per Share*, or SFAS 128. Under the provisions of SFAS 128, basic net loss per share attributable to common stockholders, or Basic EPS, is computed by dividing the net loss by the weighted average number of common shares outstanding. Diluted net loss per share, or Diluted EPS, is computed by dividing the net loss by the weighted average number of common shares and dilutive common share equivalents outstanding.

Common share equivalents consist of the incremental common shares issuable upon the exercise of stock options. The Company has excluded all outstanding stock options from the calculation of net loss per share because their effect is antidilutive for the periods presented. As a result, Diluted EPS is identical to Basic EPS for the periods presented.

Had the Company been in a net income position, potentially dilutive outstanding stock options of 3,120,352 and 2,711,902 for the three months ended September 30, 2008 and 2007, respectively, and 3,105,025 and 2,589,190 for the nine months ended September 30, 2008 and 2007, respectively, in each case calculated on a weighted-average basis, may have been included in the calculation.

Common Stock

On January 23, 2008, the Company issued 4,370,000 shares of common stock in a public offering at $7.07 per share. The offering resulted in proceeds to the Company of $29,109,000 after underwriters' discounts and commissions and offering expenses payable by the Company.

During the three and nine months ended September 30, 2008, the Company issued 48,975 and 90,909 shares of common stock, respectively, upon the exercise of stock options.

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)
September 30, 2008

2. Summary of Significant Accounting Policies (continued)

Nonrefundable Advance Payments

The Company adopted EITF Issue 07-3, *Accounting for Nonrefundable Advance Payments for Goods or Services to be Used in Future Research and Development Activities*, or EITF 07-3, on January 1, 2008. EITF 07-3 concluded that nonrefundable advance payments for goods or services to be received in the future for use in research and development activities should be deferred and capitalized and that the capitalized amounts should be expensed as the goods are delivered or the services are rendered. If an entity's expectations change such that it does not expect it will need the goods to be delivered or the services to be rendered, capitalized nonrefundable advance payments should be charged to expense. Application of the provisions of EITF 07-3 resulted in increased total assets and decreased net loss of $66,000 and $509,000, or less than $0.01 per share and $0.02 per share, for the three and nine months ended September 30, 2008, respectively.

Comprehensive Loss

The Company's comprehensive loss for each of the three and nine months ended September 30, 2008 and 2007 equaled its reported net loss.

3. Inventories

Inventories consisted of the following as of the respective dates indicated:

	September 30, 2008	December 31, 2007
Raw materials	$ 51,877	$ 51,877
Finished goods	57,632	88,536
	$ 109,509	$ 140,413

4. Strategic Alliance and Collaboration Agreements

AstraZeneca AB

In December 2005, the Company entered into a collaborative research and license agreement with AstraZeneca AB under which the Company granted AstraZeneca exclusive development and worldwide commercialization rights to the Company's product candidate known as AZD3480 (TC-1734) as a treatment for Alzheimer's disease, cognitive dysfunction in schizophrenia and potentially other conditions marked by cognitive impairment such as attention deficit hyperactivity disorder, age associated memory impairment and mild cognitive impairment. The collaboration agreement also provides for a multi-year preclinical research collaboration between the Company and AstraZeneca. The Company is eligible to receive research fees, license fees and milestone payments under its collaboration agreement with AstraZeneca. The amount of research fees, license fees and milestone payments will depend on the extent of the Company's research activities and the timing and achievement of development, regulatory and first commercial sale milestone events.

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)
September 30, 2008

4. Strategic Alliance and Collaboration Agreements (continued)

AstraZeneca paid the Company an initial fee of $10,000,000 in February 2006. Based on the collaboration agreement terms, the Company allocated $5,000,000 of the initial fee to the research collaboration, which the Company is recognizing as revenue on a straight-line basis over the planned four-year term of the research collaboration. The Company deferred recognition of the remaining $5,000,000 of the initial fee, which was allocated to the AZD3480 (TC-1734) license grants, until December 2006, when AstraZeneca made a determination to proceed with further development of AZD3480 (TC-1734) following the completion of additional clinical and non-clinical studies that AstraZeneca conducted during 2006. On December 27, 2006, AstraZeneca communicated its decision to proceed with further development of AZD3480 (TC-1734) to the Company. As a result, in the first quarter of 2007, the Company began recognizing the $5,000,000 of the initial fee that it had previously deferred as revenue on a straight-line basis over the estimated five-year development period for AZD3480 (TC-1734). The Company recognized $563,000 of the initial fee as revenue for each of the three-month periods ended September 30, 2008 and 2007, and the Company recognized $1,688,000 of the initial fee as revenue for each of the nine-month periods ended September 30, 2008 and 2007.

The Company expects to recognize any revenue based on the achievement of milestones under the collaboration agreement upon achievement of the milestone event, if the Company determines that the revenue satisfies the revenue recognition requirements of SAB 101, as amended by SAB 104. AstraZeneca's determination to proceed with further development of AZD3480 (TC-1734) triggered a $20,000,000 payment in accordance with the agreement, and the Company recognized the full amount as revenue in December 2006. The payment was received in January 2007 in accordance with the terms of the agreement.

Under the agreement, the Company is also eligible to receive additional payments of up to $249,000,000, contingent upon the achievement of development, regulatory and first commercial sale milestones for AZD3480 (TC-1734) for three indications, as well as stepped double-digit royalties dependent on sales achieved following regulatory approval. Under the terms of a sponsored research agreement and a subsequent license agreement between the Company and the University of Kentucky Research Foundation, or UKRF, Targacept is required to pay UKRF a low single digit percentage of any payments that are received from AstraZeneca related to AZD3480 (TC-1734).

In 2006, during the period that AstraZeneca conducted additional safety and product characterization studies, AstraZeneca agreed to pay the Company research fees equal to 50% of the Company's research expenses in the parties' preclinical research collaboration. The Company recorded these fees as deferred revenue pending AstraZeneca's decision whether to proceed with further development of AZD3480 (TC-1734). As a result of AstraZeneca's decision to proceed with further development of AZD3480 (TC-1734), in December 2006, the Company recognized as collaboration research and development revenue all previously deferred research fees, plus the other 50% of the Company's research expenses incurred in the research collaboration that had not previously been recorded, which totaled $4,672,000. Subsequently, the Company has recognized collaboration research and development revenue as the research is performed and related expenses are incurred. The Company recognized collaboration research and development revenue of $2,352,000 and $1,830,000 for the three months ended September 30, 2008 and 2007, respectively, and $7,200,000 and $4,793,000 for the nine months ended September 30, 2008 and 2007, respectively.

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)
September 30, 2008

4. Strategic Alliance and Collaboration Agreements (continued)

In October 2007, the Company provided notice under its agreement with AstraZeneca offering AstraZeneca the right to license its product candidate TC-5619 for specified conditions characterized by cognitive impairment. Based on a subsequent election by AstraZeneca made under the terms of the agreement, AstraZeneca paid the Company $2,000,000 and the Company agreed to develop TC-5619 independently through completion of Phase 1 clinical development and a Phase 2 proof of concept clinical trial in accordance with a mutually acceptable development plan, following which AZ has the right to license TC-5619. The Company is recognizing the $2,000,000 payment as revenue on a straight-line basis over the expected development period for TC-5619 to reach Phase 2 proof of concept. Accordingly, the Company recognized $231,000 and $692,000 of the payment as revenue for the three and nine months ended September 30, 2008, respectively.

In May 2008, the Company received a $200,000 payment from AstraZeneca upon achievement of a milestone event related to the development of a product candidate under the parties' preclinical research collaboration. The Company recognized the full $200,000 as revenue upon achievement of the milestone event because the event met each of the conditions required for immediate recognition under the Company's revenue recognition policy (see Note 2).

GlaxoSmithKline

On July 27, 2007, the Company entered into a product development and commercialization agreement with SmithKline Beecham Corporation, doing business as GlaxoSmithKline, and Glaxo Group Limited, which are referred to together as GlaxoSmithKline, that sets forth the terms of an alliance designed to discover, develop and market product candidates that selectively target specified NNR subtypes in five therapeutic focus areas: pain, smoking cessation, addiction, obesity and Parkinson's disease.

Under the product development and commercialization agreement, the Company has agreed, for specified periods of time, to use diligent efforts to conduct research activities designed to discover product candidates that target specified NNR subtypes, to develop the product candidate identified as the lead for each therapeutic focus area of the alliance through a Phase 2 proof of concept trial and to develop up to two other product candidates for each therapeutic focus area to a specified stage of preclinical development. With respect to each therapeutic focus area in the alliance, if the Company achieves clinical proof of concept with respect to a lead product candidate, GlaxoSmithKline would have an exclusive option for an exclusive license to that lead product candidate and up to two other product candidates in development in the alliance for the same therapeutic focus area on a worldwide basis. If GlaxoSmithKline exercises its option and pays the applicable exercise fee, GlaxoSmithKline would become responsible for using diligent efforts to conduct later-stage development and commercialization of the lead product candidate at its sole expense. GlaxoSmithKline's exclusive license would include all fields of use other than those indications for which the Company has granted development and commercialization rights for product candidates under its collaboration agreement with AstraZeneca AB.

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)
September 30, 2008

4. Strategic Alliance and Collaboration Agreements (continued)

The terms of the alliance provide for the Company to conduct its research and development activities under the product development and commercialization agreement at its sole expense. The Company is, however, eligible to receive milestone payments from GlaxoSmithKline if it successfully advances product candidates subject to the alliance through preclinical and clinical development.

Under the product development and commercialization agreement and a related stock purchase agreement, GlaxoSmithKline made an initial payment to the Company of $20,000,000 and purchased 1,275,502 shares of the Company's common stock for an aggregate purchase price of $15,000,000. The purchase price paid by GlaxoSmithKline reflected an aggregate deemed premium of $3,520,000, based on the closing price of the Company's common stock on the trading day immediately preceding the date that the agreements were signed and announced. The Company recorded both the initial payment made by GlaxoSmithKline and the deemed premium paid for the shares of the Company's common stock purchased by GlaxoSmithKline as deferred license fee revenue and is recognizing them into revenue on a straight-line basis over the estimated term of the Company's research and early development obligations under the agreement. Currently, the Company estimates the term of such obligations to be nine years. The Company recognized $653,000 and $471,000 of the initial payment and deemed premium as revenue for the three months ended September 30, 2008 and 2007, respectively, and $1,960,000 and $471,000 for the nine months ended September 30, 2008 and 2007, respectively.

The Company is also eligible to receive up to $1,500,000,000 in additional payments from GlaxoSmithKline, contingent upon the achievement of specified discovery, development, regulatory and commercial milestones across the five therapeutic focus areas of the alliance, as well as stepped double-digit royalties dependent on sales achieved following regulatory approval for any product licensed by GlaxoSmithKline. The Company expects to recognize any revenue based on the achievement of milestones under the agreement upon achievement of the milestone event, if the Company determines that the revenue satisfies the revenue recognition requirements of SAB 101, as amended by SAB 104. The amounts that the Company may receive will depend on the success of the Company's research and development activities, the timing and achievement of the discovery, development, regulatory and commercial milestone events and whether GlaxoSmithKline exercises any options that are triggered under the agreement.

In December 2007, the Company received a $6,000,000 payment from GlaxoSmithKline upon the Company's initiation of a Phase 1 clinical trial of TC-6499, a milestone event under the agreement. The Company determined the payment did not meet each of the conditions of its revenue recognition policy (see Note 2) required for recognition of the full amount into revenue upon achievement of the milestone. Specifically, based on the progress of this product candidate as of inception of the agreement, achievement of this milestone was reasonably assured within the meaning of the Company's revenue recognition policy. Therefore, the Company recorded the payment as deferred license fee revenue and is recognizing it into revenue on a straight-line basis over the estimated term of the Company's research and early development obligations under the agreement. Accordingly, the Company recognized $173,000 and $519,000 of the payment as revenue for the three and nine months ended September 30, 2008, respectively.

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)
September 30, 2008

4. Strategic Alliance and Collaboration Agreements (continued)

In May 2008, the Company received a $500,000 payment from GlaxoSmithKline upon achievement of a milestone event related to progress in the Company's smoking cessation program. The Company recognized the full $500,000 as revenue upon achievement of the milestone event because the event met each of the conditions required for immediate recognition under the Company's revenue recognition policy (see Note 2). In November 2008, the Company received $1.0 million in payments from GlaxoSmithKline following the achievement in October of milestone events related to progress in the Company's preclinical programs in smoking cessation and pain.

5. Long-term Debt

In March 2008, the Company entered into a loan agreement with a bank that provided borrowing capacity of $5,300,000 to fund the purchase of equipment, furnishings, software and other fixed assets and enable the refinancing of its loan facility with R.J. Reynolds Tobacco Holdings, Inc., or RJRT. The Company borrowed $4,811,000 upon entering into the loan agreement and borrowed the remaining $489,000 in September 2008. Pursuant to the loan agreement, the Company granted a first priority security interest in favor of the bank in the assets acquired with the proceeds of the loan facility. The Company's March 2008 loan bears interest at a fixed rate of 5.231% per annum and is repayable in equal monthly installments of $112,000 beginning April 1, 2008 and through the maturity date of March 1, 2012. The Company used $1,679,000 of the proceeds from the March 2008 loan to pay and satisfy in full the principal and interest outstanding on two of the tranches under its loan facility with RJRT and granted a first priority security interest in favor of the bank in assets previously acquired with the proceeds of those tranches. The Company's September 2008 loan bears interest at a fixed rate of 6.131% per annum and is repayable in equal monthly installments of $11,000 beginning October 1, 2008 through the maturity date of September 1, 2012.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

You should read the following discussion and analysis of our financial condition and results of operations together with our financial statements and accompanying notes included in this quarterly report and our audited financial statements and Management's Discussion and Analysis of Financial Condition and Results of Operations included in our Annual Report on Form 10-K for the year ended December 31, 2007, which is on file with the SEC. In addition to historical information, the following discussion contains forward-looking statements that involve risks, uncertainties and assumptions. Our actual results, performance or experience could differ materially from those indicated by the forward-looking statements due to various important factors, risks and uncertainties, including, but not limited to, those set forth under "Cautionary Note Regarding Forward-Looking Statements" in Part I of this quarterly report and under "Risk Factors" in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2007 and other filings that we make with the SEC.

Overview

Background

We are a biopharmaceutical company engaged in the design, discovery and development of NNR Therapeutics, a new class of drugs for the treatment of multiple diseases and disorders of the central nervous system. Our NNR Therapeutics selectively target a class of receptors known as neuronal nicotinic receptors, or NNRs. We currently have clinical-stage product candidates in the therapeutic areas of cognitive impairment, depression and anxiety, and pain. We also have preclinical programs focused in smoking cessation, pain, obesity, addiction, Parkinson's disease and inflammation. We have a cognition-focused collaboration with AstraZeneca and a strategic alliance with GlaxoSmithKline.

Our lead product candidate is a novel small molecule that we have historically referred to as TC-1734 and that AstraZeneca refers to as AZD3480. AZD3480 (TC-1734) modulates the activity of the a4ß2 NNR. In December 2005, we entered into a collaborative research and license agreement with AstraZeneca AB for the development and worldwide commercialization of AZD3480 (TC-1734) as a treatment for Alzheimer's disease, cognitive dysfunction in schizophrenia and potentially other conditions characterized by cognitive impairment such as attention deficit hyperactivity disorder, or ADHD, age associated memory impairment, or AAMI, and mild cognitive impairment, or MCI.

AstraZeneca has completed a Phase 2b clinical trial of AZD3480 (TC-1734) in mild to moderate Alzheimer's disease, known as the Sirocco trial, and is conducting an ongoing Phase 2b clinical trial in cognitive dysfunction in schizophrenia, known as the HALO trial. AZD3480 (TC-1734) is also currently being studied in an exploratory Phase 2 clinical trial in adults with ADHD. We announced top-line results from the Sirocco trial in September 2008. Top-line results from the HALO trial are expected in December 2008. A decision by AstraZeneca whether to conduct further development of AZD3480 (TC-1734) for any one or more of mild to moderate Alzheimer's disease, cognitive dysfunction in schizophrenia and ADHD is expected by the end of the year, following availability of top-line results from the HALO trial.

We and AstraZeneca are conducting a preclinical research collaboration under our agreement that is designed to discover and develop additional compounds that, like AZD3480 (TC-1734), act on the a4ß2 NNR as treatments for conditions characterized by cognitive impairment. AstraZeneca pays us research fees, based on a reimbursement rate specified under the agreement, for research services rendered in the preclinical research collaboration, subject to specified limits. The research term began in January 2006 and has a planned term of four years.

In July 2007, we entered into a product development and commercialization agreement with SmithKline Beecham Corporation, doing business as GlaxoSmithKline, and Glaxo Group Limited. SmithKline Beecham Corporation and Glaxo Group Limited are referred to together in this quarterly report as GlaxoSmithKline. The agreement sets forth the terms of an alliance designed to discover, develop and market product candidates that selectively target specified NNR subtypes in five therapeutic focus areas: smoking cessation, pain, obesity, addiction and Parkinson's disease.

Our other clinical-stage product candidates, in addition to AZD3480 (TC-1734), are described below.

- *TC-5619*. TC-5619 is a novel small molecule that we plan to develop for cognitive dysfunction in schizophrenia and potentially one or more other conditions characterized by cognitive impairment. TC-5619 modulates the activity of the a7 NNR. We have completed dosing in a Phase 1 multiple rising dose clinical trial of TC-5619. Following our completion of Phase 1 clinical development and a Phase 2 clinical proof of concept trial of TC-5619, AstraZeneca has the right to license TC-5619 for schizophrenia and various conditions characterized by cognitive impairment on terms specified in our agreement.
- *TC-5214*. TC-5214 is a product candidate that we are developing as an augmentation therapy for major depressive disorder, or MDD. TC-5214, which is the S(+) enantiomer of mecamylamine hydrochloride, inhibits the activity of various NNR subtypes, including the a4ß2 NNR. We initiated a Phase 2b clinical trial of TC-5214 for MDD in the third quarter of 2008.
- *TC-6499*. TC-6499 is novel small molecule that we plan to develop as a treatment for neuropathic pain. TC-6499 modulates the activity of the a4ß2 NNR. We initiated a Phase 1 multiple rising dose clinical trial in the third quarter of 2008 and expect to complete the trial by the end of 2008. TC-6499 is subject to a contingent future option of GlaxoSmithKline under the terms of our alliance.
- *TC-2216*. Our depression and anxiety program also includes the novel small molecule TC-2216. TC-2216 inhibits the activity of the a 4ß2 NNR. We have completed a Phase 1 single rising dose clinical trial of this product candidate. We may in the future elect to develop one of the enantiomers of TC-2216 in lieu of further development of TC-2216. However, based on our development of TC-5214 and our current budget management plans, we are not conducting further clinical development of TC-2216 or either of its enantiomers in 2008 and have no current plan to conduct further clinical development in 2009.

We trace our scientific lineage to a research program initiated by R.J. Reynolds Tobacco Company in 1982 to study the activity and effects of nicotine in the body and the function of nicotinic receptors. We were incorporated in 1997 as a wholly owned subsidiary of RJR. In August 2000, we became an independent company when we issued and sold stock to venture capital investors. Since our inception, we have had limited revenue from product sales and have funded our operations principally through the sale of equity securities, revenue from collaboration agreements and grants and equipment and building lease incentive financing. We have devoted substantially all of our resources to the discovery and development of our product candidates and technologies, including the design, conduct and management of preclinical and clinical studies and related manufacturing, regulatory and clinical affairs, as well as intellectual property prosecution.

We generated net income for the fourth quarter and year ended December 31, 2006 due primarily to the recognition of revenue derived under our agreement with AstraZeneca. Except for these periods, we have never been profitable. As of September 30, 2008, we had an accumulated deficit of $184.5 million. We expect to incur substantial losses for the foreseeable future as we expand our clinical trial activity, as our clinical-stage and preclinical product candidates advance through the development cycle, as we progress our programs in the therapeutic focus areas of our alliance with GlaxoSmithKline and our preclinical research collaboration with AstraZeneca and as we invest in additional product opportunities and research programs and expand our research and development infrastructure. Clinical trials and preclinical studies are time-consuming, expensive and may never yield a product that will generate revenue.

We believe that period-to-period comparisons of our results of operations are not meaningful and should not be relied upon as indicative of our future performance.

Revenue

As of September 30, 2008, we had received $32.2 million in aggregate upfront fees and milestone payments and had recognized $19.6 million in collaboration research and development revenue for preclinical research services under our collaboration agreement with AstraZeneca. As of September 30, 2008, we had also received $41.5 million in aggregate payments under our alliance agreement with GlaxoSmithKline.

We acquired rights to Inversine®, which is our only product approved by the U.S. Food and Drug Administration, or FDA, for marketing, in August 2002. Inversine is approved for the management of moderately severe to severe essential hypertension and in uncomplicated cases of malignant hypertension, which are high blood pressure disorders. However, we believe that Inversine is prescribed predominantly for the treatment of neuropsychiatric disorders, such as Tourette’s syndrome, autism and bipolar disorder. Sales of Inversine generated net revenue of $164,000 and $101,000 for the three months ended September 30, 2008 and 2007, respectively, and $551,000 and $446,000 for the nine months ended September 30, 2008 and 2007, respectively. At the beginning of 2008, we instituted a 62% price increase for Inversine to help offset the impact of increased cost of product sales resulting from FDA product and establishment fees and have experienced decreased sales volume in both the three and nine months ended September 30, 2008. We do not anticipate any significant increase in the volume of Inversine sales. We do not have or use a sales force or promote Inversine.

From time to time we seek and are awarded grants or work to be performed under grants awarded to third-party collaborators from which we derive revenue. As of September 30, 2008, we are a named subcontractor under a grant awarded to The California Institute of Technology by the National Institute on Drug Abuse, or NIDA, part of the National Institutes of Health, to fund research on innovative NNR-based approaches to the development of therapies for smoking cessation. We expect to receive approximately $1.1 million in the aggregate over a five-year period that began in July 2006 in connection with the NIDA grant. Funding for awards under federal grant programs is subject to the availability of funds as determined annually in the federal appropriations process.

A substantial portion of our revenue depends on the conduct of research and the successful achievement of milestone events in the development of AZD3480 (TC-1734) under our agreement with AstraZeneca, whether AstraZeneca elects to license TC-5619 following our completion of Phase 1 clinical development and a Phase 2 clinical proof of concept trial, and on the successful achievement of milestone events under our agreement with GlaxoSmithKline in the development of TC-6499 and in the five therapeutic focus areas of our alliance. Our revenue may vary substantially from quarter to quarter and year to year.

Research and Development Expenses

Since our inception, we have focused our activities on our drug discovery and development programs. We record research and development expenses as they are incurred. Research and development expenses represented approximately 87% and 82% of our total operating expenses for the three months ended September 30, 2008 and 2007, respectively, and 85% and 79% of our total operating expenses for the nine months ended September 30, 2008 and 2007, respectively.

Under the terms of our collaboration agreement, AstraZeneca is responsible for substantially all development costs for AZD3480 (TC-1734), except for costs associated with the conduct of the ongoing Phase 2 clinical trial of AZD3480 (TC-1734) in adults with ADHD. The following table shows, for the periods presented, total amounts that we incurred for third-party services in connection with preclinical studies, pharmaceutical development, clinical supplies and clinical trials, as applicable for our most advanced product candidates:

	Three months ended September 30,		Nine months ended September 30,	
	2008	2007	2008	2007
Product Candidate	(in thousands)		(in thousands)	
AZD3480 (TC-1734)	$ 85	$ —	$ 220	$ —
TC-5619	731	378	2,367	1,462
TC-5214	1,288	1,306	3,158	2,957
TC-6499	1,125	393	1,957	1,019
TC-2216	47	591	566	1,069
	$ 3,276	$ 2,668	$8,268	$6,507

The reported amounts for TC-2216 for both of the 2008 periods include costs with respect to non-clinical studies conducted to characterize TC-2216 and its constituent enantiomers further. The reported amount for TC-2216 for the nine months ended September 30, 2008 also includes costs with respect to our completed Phase 1 single rising dose clinical trial.

In December 2007, we announced that TC-2696, a product candidate for acute post-operative pain, did not meet the primary endpoints in a Phase 2 clinical trial in third molar extraction patients. We have no current plans to conduct further clinical development of TC-2696. We incurred expenses for third-party services in connection with the development of TC-2696 of $429,000 and $981,000 for the three and nine months ended September 30, 2007. We have not incurred any expenses in connection with the development of TC-2696 for the comparable 2008 periods.

We utilize our research and development personnel and infrastructure resources across several programs. We currently have clinical, preclinical and early research programs, and many of our costs are not specifically attributable to a single program. Instead, these costs are directed to broadly applicable research efforts. Accordingly, we cannot state precisely our total costs incurred on a program-by-program basis.

We have not received FDA or foreign regulatory marketing approval for any of our product candidates that are in development. Our current and future expenditures on preclinical and clinical development programs are subject to numerous uncertainties in timing and cost to completion. In particular, our strategy includes entering into alliances and collaborations with third parties to participate in the development and commercialization of some of our product candidates. Where a third party has responsibility for or authority over preclinical or clinical development of a particular product candidate, the estimated completion date is largely under control of that third party and not under our control. We cannot forecast with any degree of certainty whether AstraZeneca or GlaxoSmithKline will exercise any options to license particular product candidates that become exercisable under the terms of our respective agreements, which of our product candidates will be subject to future alliances or collaborations or how such arrangements would affect our development plans or capital requirements. Because of these uncertainties, and because of the numerous uncertainties related to clinical trials and related activities, we are unable to determine the duration and completion costs of our research and development programs or whether or when we will generate revenue from the commercialization and sale of any of our product candidates in development.

General and Administrative Expenses

General and administrative expenses consist principally of salaries and other related costs for personnel in executive, finance, accounting, business development, legal and human resource functions. Other general and administrative expenses include expenses associated with stock options and other stock-based compensation granted to personnel in those functions, facility costs not otherwise included in research and development expenses, patent-related costs, insurance costs and professional fees for consulting, legal, accounting and public and investor relations services.

Income Taxes

We generated net income for the fourth quarter and year ended December 31, 2006 due primarily to the recognition of revenue derived under our agreement with AstraZeneca. We incurred net operating losses for each other period since inception and consequently have not paid federal, state or foreign income taxes in any period. As of September 30, 2008, we had net operating loss carryforwards of $113.6 million for each of federal and state income tax purposes. We also had $3.9 million in research and development federal income tax credits as of September 30, 2008. The federal net operating loss carryforwards begin to expire in 2020. The state net operating loss carryforwards begin to expire in 2015. The research and development tax credits begin to expire in

2021. Utilization of the net operating loss carryforwards and credits may be subject to a substantial annual limitation due to ownership change limitations provided by Section 382 of the Internal Revenue Code of 1986, as amended, and similar state provisions. When an ownership change, as defined by Section 382, occurs, an annual limitation is imposed on a company's use of net operating loss and credit carryforwards attributable to periods before the change. As a result of a series of stock issuances, we had such an ownership change in November 2002. Consequently, an annual limitation is imposed on our use of net operating loss and credit carryforwards that are attributable to periods before November 2002 and a portion of the net operating loss carryforwards described above may potentially not be usable by us. We could experience additional ownership changes in the future. For financial reporting purposes, we have recorded a valuation allowance to fully offset the deferred tax asset related to these carryforwards because realization of the benefit is uncertain.

Critical Accounting Policies and Estimates

Our management's discussion and analysis of our financial condition and results of operations are based on our unaudited financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States for interim financial information. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses. On an ongoing basis, we evaluate these estimates and judgments. We base our estimates on historical experience and on various assumptions that we believe to be reasonable under the circumstances. These estimates and assumptions form the basis for making judgments about the carrying values of assets and liabilities and the recording of revenues and expenses that are not readily apparent from other sources. Actual results and experiences may differ materially from these estimates. In addition, our reported financial condition and results of operations could vary if new accounting standards are enacted that are applicable to our business.

Our significant accounting policies are described in Note 2 to our audited financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2007 and in the notes to our financial statements included in this quarterly report. We believe that our accounting policies relating to revenue recognition, accrued expenses and stock-based compensation are the most critical to understanding and evaluating our reported financial results. We have identified these policies as critical because they are important to the presentation of our financial condition and results of operations and require us to make judgments and estimates on matters that are inherently uncertain and may change in future periods. These policies are described under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies and Estimates" in our Annual Report on Form 10-K for the year ended December 31, 2007.

Results of Operations

Three Months ended September 30, 2008 and 2007

Net Operating Revenues

Net operating revenues increased by $1.0 million to $4.1 million for the three months ended September 30, 2008, from $3.1 million for the comparable three-month period in 2007. The higher net operating revenues were principally attributable to an increase of $586,000 in milestones and license fees from collaborations revenue from AstraZeneca and GlaxoSmithKline to $1.6 million for

the 2008 period, from $1.0 for the 2007 period, and to an increase of $361,000 in collaboration research and development revenue to $2.4 million for the 2008 period, from $2.0 million for the 2007 period. The increase in milestones and license fees from collaborations revenue for the 2008 period reflects the recognition of $1.1 million of deferred license fee revenue from payments received from GlaxoSmithKline in July 2007 and from GlaxoSmithKline and AstraZeneca in the fourth quarter of 2007, as compared to $471,000 recognized during the 2007 period. The increase in collaboration research and development revenue for the 2008 period reflects additional services rendered by us in our preclinical research collaboration with AstraZeneca as additional compounds were identified in the collaboration and existing compounds progressed into more advanced stages of research. Based on progress made to date in our preclinical research collaboration with AstraZeneca and our current research plans, we expect collaboration research and development revenue to decrease in 2009, which is the last year planned for the preclinical research collaboration with AstraZeneca.

Research and Development Expenses

Research and development expenses increased by $1.3 million to $10.7 million for the three months ended September 30, 2008, from $9.4 million for the comparable three-month period in 2007. The higher research and development expenses were principally attributable to an increase of $1.2 million in costs for third-party preclinical research and development services incurred primarily in connection with our research collaboration with AstraZeneca and programs in the therapeutic focus areas of our alliance with GlaxoSmithKline to $1.3 million for the 2008 period, from $139,000 for the 2007 period. The higher research and development expenses also reflect an increase of $1.2 million in costs for third-party research and development services incurred in connection with AZD3480 (TC-1734), TC-5619 and TC-6499 to $1.9 million for the 2008 period, from $771,000 for the 2007 period, partially offset by reduced spending of $992,000 for TC-2216 and TC-2696. The higher expenses for TC-5619 and TC-6499 reflect the conduct of later stage clinical trials in the 2008 period as compared to the 2007 period and the expenses for AZD3480 (TC-1734) reflect our funding of the exploratory Phase 2 clinical trial in adults with ADHD initiated in the second quarter of 2008. Research and development expenses for third-party services in connection with TC-5214 were substantially the same for both three-month periods.

We anticipate our research and development expenses for the fourth quarter of 2008 will be higher than our research and development expenses for any of the first three quarters of 2008 as a result of expected costs associated with our ongoing Phase 2b clinical trial of TC-5214, our ongoing Phase 2 clinical trial of AZD3480 (TC-1734) in adults with ADHD, our ongoing Phase 1 clinical trials of TC-5619 and TC-6499 and increased activity in connection with our preclinical programs, including those in the therapeutic focus areas of our alliance with GlaxoSmithKline.

General and Administrative Expenses

General and administrative expenses decreased by $523,000 to $1.4 million for the three- month period ended September 30, 2008, from $1.9 million for the comparable three-month period in 2007. The decrease for the 2008 period was principally attributable to a reduction of $355,000 in compensation-related expenses, primarily as a result of reduced accrual for employee bonuses, and a reduction of $187,000 in patent-related expenses, which reflects differences in the timing of prosecution of foreign patent applications between 2008 and 2007.

Interest Income

Interest income decreased by $502,000 to $579,000 for the three months ended September 30, 2008, from $1.1 million for the comparable three-month period in 2007. The decrease was primarily attributable to lower short-term interest rates, partially offset by a higher average cash and investment balance during the 2008 period.

Interest Expense

Interest expense increased by $17,000 to $65,000 for the three months ended September 30, 2008, from $48,000 for the comparable three-month period in 2007. The increase was attributable to greater indebtedness under our loan facilities. In particular, we borrowed $4.8 million in March 2008 pursuant to a loan agreement that we entered into with a bank. We used $1.7 million of the proceeds to repay a portion of an existing loan facility, resulting in a net increase in indebtedness under our loan facilities of $3.6 million.

Nine Months ended September 30, 2008 and 2007

Net Operating Revenues

Net operating revenues increased by $5.6 million to $13.6 million for the nine months ended September 30, 2008, from $8.0 million for the comparable nine-month period in 2007. The higher net operating revenues were principally attributable to an increase of $3.4 million in milestones and license fees from collaborations revenue from AstraZeneca and GlaxoSmithKline to $5.6 million for the 2008 period, from $2.2 million for the 2007 period, and to an increase of $2.0 million in collaboration research and development revenue to $7.2 million for the 2008 period, from $5.2 million for the 2007 period. The increase in milestones and license fees from collaborations revenue for the 2008 period reflects the recognition of $3.2 million of deferred license fee revenue from payments received from GlaxoSmithKline in July 2007 and from GlaxoSmithKline and AstraZeneca in the fourth quarter of 2007, an increase of $2.7 million over the 2007 period, as well as the achievement of milestone events related to progress in our smoking cessation program under our agreement with GlaxoSmithKline and to the progression of a product candidate in the preclinical research collaboration under our agreement with AstraZeneca, which resulted in an aggregate of $700,000 in payments to us. The increase in collaboration research and development revenue for the 2008 period reflects additional services rendered by us in the preclinical research collaboration with AstraZeneca as additional compounds were identified in the collaboration and existing compounds progressed into more advanced stages of research.

Research and Development Expenses

Research and development expenses increased by $5.6 million to $30.3 million for the nine months ended September 30, 2008, from $24.7 million for the comparable nine-month period in 2007. The higher research and development expenses were principally attributable to an increase of $2.8 million in salary and benefit expenses, occupancy costs and supply and infrastructure costs resulting from an increased number of research and development personnel primarily to execute our preclinical research collaboration with AstraZeneca and preclinical programs in the therapeutic focus areas of our alliance with GlaxoSmithKline to $18.8 million for the 2008 period, from $16.0 million for the 2007 period, an increase of $2.1 million in costs for third-party preclinical research and development services incurred primarily in connection with our research collaboration with AstraZeneca and programs in the

therapeutic focus areas of our alliance with GlaxoSmithKline to $3.3 million for the 2008 period, from $1.2 million for the 2007 period, and an aggregate increase of $1.8 million for third-party research and development services incurred in connection with our clinical-stage product candidates to $8.3 million for the 2008 period, from $6.5 million for the 2007 period, partially offset by reduced spending of $994,000 for TC-2696. The higher expenses reflect the conduct of later stage clinical trials for TC-5619 and TC-6499 in the 2008 period as compared to the 2007 period, the clinical development of TC-5214 beginning in March 2008 and the exploratory Phase 2 clinical trial of AZD3480 (TC-1734) in adults with ADHD initiated in the second quarter of 2008.

General and Administrative Expenses

General and administrative expenses decreased by $904,000 to $5.0 million for the nine months ended September 30, 2008, from $5.9 million for the comparable nine-month period in 2007. The decrease was primarily attributable to a decrease of $1.0 million in stock-based compensation, a non-cash item, resulting from compensatory stock option grants, partially offset by greater occupancy costs, compensation-related expenses and recruitment costs associated with an increase in our number of employees in the 2008 period as compared to the 2007 period. The increase in compensation-related expenses for the 2008 period was partially offset by lower accrual for employee bonuses.

Interest Income

Interest income decreased by $534,000 to $2.2 million for the nine-month period ended September 30, 2008, from $2.8 million for the comparable nine-month period in 2007. The decrease was primarily attributable to lower short-term interest rates, partially offset by a higher average cash and investment balance during the 2008 period.

Interest Expense

Interest expense increased by $92,000 to $184,000 for the nine months ended September 30, 2008, from $92,000 for the comparable nine-month period in 2007. The increase was attributable to greater indebtedness under our loan facilities.

Liquidity and Capital Resources

Sources of Liquidity

From August 2000 when we became an independent company until completion of our initial public offering in April 2006, we financed our operations and internal growth primarily through private placements of convertible preferred stock. We derived aggregate net proceeds of $121.8 million from these private placements. In April 2006, we completed an initial public offering of our common stock, consisting of 5.0 million shares at a price of $9.00 per share. After deducting underwriting discounts and commissions and offering expenses payable by us, our net proceeds from the offering were $40.8 million. In January 2008, we completed another public offering of our common stock, consisting of 4.4 million shares at a price of $7.07 per share, the closing bid price of our common stock on the date that the offering was priced. After deducting underwriting discounts and commissions and offering expenses payable by us, our net proceeds from the offering were $29.1 million. We have also received funding from: upfront fees; payments for research and development services and payments upon achievement of milestone events under collaboration and

alliance agreements; equipment and building lease incentive financing; government grants; and interest income. We began generating revenue from product sales of Inversine in December 2002. To date, the net contribution from Inversine sales has not been a significant source of cash and we do not expect it to be a significant source of cash in the future.

In May 2008, we received a $500,000 payment from GlaxoSmithKline under our alliance agreement entered into in July 2007 upon achievement of a milestone event related to progress in our smoking cessation program. As of September 30, 2008, we had received $41.5 million in aggregate payments under our alliance agreement with GlaxoSmithKline. Subsequent to the end of the quarter, in November 2008, we received $1.0 million in payments from GlaxoSmithKline following the achievement in October of milestone events under our alliance agreement related to progress in our preclinical programs in smoking cessation and pain.

In May 2008, we received a $200,000 payment from AstraZeneca under our collaboration agreement entered into in December 2005 upon achievement of a milestone event related to the development of a product candidate in our preclinical research collaboration. As of September 30, 2008, we have received $32.2 million in aggregate upfront fees and milestone payments and recognized $19.6 million in aggregate research fees under our collaboration agreement with AstraZeneca.

In March 2008, we entered into a loan agreement with a bank that provided borrowing capacity of $5.3 million to fund the purchase of equipment, furnishings, software and other fixed assets and enable the refinancing of our loan facility with R.J. Reynolds Tobacco Holdings, Inc., or RJRT. We borrowed $4.8 million upon entering into the loan agreement and borrowed the remaining $489,000 in September 2008. Pursuant to the loan agreement, we granted a first priority security interest in favor of the bank in the assets acquired with the proceeds of the loan facility. The March 2008 loan bears interest at a fixed rate of 5.231% per annum and is repayable in equal monthly installments of $112,000 beginning April 1, 2008 and through the maturity date of March 1, 2012. We used $1.7 million of the proceeds from the March 2008 loan to pay and satisfy in full the principal and interest outstanding on two of the tranches under the loan facility with RJRT and granted a first priority security interest in favor of the bank in assets previously acquired with the proceeds of those tranches. The September 2008 loan bears interest at a fixed rate of 6.131% per annum and is repayable in equal monthly installments of $11,000 beginning October 1, 2008 and through the maturity date of September 1, 2012. As of September 30, 2008, the outstanding principal balance under the loan facility was $4.7 million and there is no additional borrowing capacity remaining available to us under the loan agreement.

We have a loan facility with RJRT that we entered into originally in May 2002 and that has been subsequently amended. All borrowings under the facility are secured by specified tangible fixed assets determined sufficient by RJRT at the time of disbursement. The lone remaining tranche outstanding under the loan facility bears interest at an annual interest rate of 6.89% and is payable in equal monthly installments of $23,000 through January 2009. As of September 30, 2008, the outstanding principal balance under the loan facility was $92,000 and there is no additional borrowing capacity available to us.

In April 2002, we received a $500,000 loan from the City of Winston-Salem. Under the terms of the loan, there was no interest accrual or payment due until the fifth anniversary. Following expiration of the five-year grace period in April 2007, the outstanding principal balance of the loan began to bear interest at an annual interest rate of 5% and became payable in equal monthly installments of $9,000 through March 2012. As of September 30, 2008, the outstanding principal balance under the loan was $361,000.

Our cash, cash equivalents and short-term investments were $93.7 million as of September 30, 2008 and $87.0 million as of December 31, 2007. As of September 30, 2008, substantially all of our cash, cash equivalents and short-term investments were invested in bank depository accounts, certificates of deposit, and institutional money market funds at Branch Banking and Trust Company, RBC Bank and Evergreen Investments, a subsidiary of Wachovia Corporation. Approximately 79% of our $29.3 million of institutional money market fund investments as of September 30, 2008 were in funds that invest 100% in U.S. Treasury bills and notes. In addition, our investments in Evergreen money market funds are currently subject to the U.S. Treasury Department's Temporary Guarantee Program for Money Market Funds initiated on September 29, 2008. The program is expected to be in effect through December 18, 2008, at which time the Secretary of the Treasury is expected to review the need and terms for the program.

Cash Flows

Net cash used in operating activities was $23.4 million for the nine months ended September 30, 2008, as compared to net cash provided by operating activities of $24.9 million for the comparable nine-month period in 2007. The difference of $48.3 million was principally due to:

- a reduction in our collaboration revenue and accounts receivable balance of (1) $21.0 million for the 2007 period as a result of our receipt of a $20.0 million milestone payment from AstraZeneca in January 2007 upon achievement of a milestone event related to AZD3480 (TC-1734) and (2) $1.4 million for the 2008 period;
- the addition of an aggregate of $23.5 million in our deferred license fee revenue liability balance in the 2007 period due to our receipt of a $20.0 million initial payment from GlaxoSmithKline and an aggregate deemed premium of $3.5 million resulting from GlaxoSmithKline's purchase of common stock, in each case in connection with the formation of our alliance in July 2007; and
- an increase in recognition of deferred license fee revenue of $2.7 million to $4.9 million for the 2008 period, from $2.2 million for the 2007 period. The increase for the 2008 period included recognition of an incrementally greater $1.5 million of the payments received from GlaxoSmithKline upon formation of our alliance, $519,000 of the $6.0 million payment from GlaxoSmithKline upon our initiation of a Phase 1 clinical trial of TC-6499 in December 2007 and $692,000 of the $2.0 million payment in November 2007 from AstraZeneca to secure the future right to license TC-5619.

Net cash used in investing activities decreased by $27.5 million to $448,000 for the nine months ended September 30, 2008, from $27.9 million for the comparable nine-month period in 2007. Cash used in investing activities primarily reflects the portion of our cash that we allocate to, and the timing of purchases and maturities of, our investments.

Net cash provided by financing activities increased by $18.9 million to $32.0 million for the nine months ended September 30, 2008, from $13.1 million for the comparable nine-month period in 2007. The increase was principally attributable to our receipt of $29.1 million in net proceeds from a public stock offering that we completed in January 2008 and incremental net borrowings of $1.1 million under our loan facilities, partially offset by our receipt of $11.5 million, net of the deemed premium, from GlaxoSmithKline for the purchase of common stock in July 2007.

Funding Requirements

As of September 30, 2008, we had an accumulated deficit of $184.5 million. We expect to incur substantial operating losses for the foreseeable future. Our future capital requirements are difficult to forecast and will depend on many factors, including:

- the results of the ongoing Phase 2b clinical trial of AZD3480 (TC-1734) in cognitive dysfunction in schizophrenia being conducted by AstraZeneca and the decision by AstraZeneca whether to conduct additional clinical development of AZD3480 (TC-1734) in either or both of mild to moderate Alzheimer's disease and cognitive dysfunction in schizophrenia;
- the scope, progress, duration, results and cost of clinical trials, as well as non-clinical studies and assessments, of our product candidates besides AZD3480 (TC-1734);
- the timing, receipt and amount of milestone and other payments from AstraZeneca, GlaxoSmithKline and potential future collaborators;
- the extent to which our research and development activities in the programs that are the therapeutic focus areas of our alliance with GlaxoSmithKline result in the achievement of milestone events under our alliance agreement;
- the duration of our preclinical research collaboration with AstraZeneca;
- whether we retain development and commercialization rights for our product candidates that are not subject to our collaboration with AstraZeneca or our alliance with GlaxoSmithKline and incur associated development and manufacturing costs and costs to establish sales and marketing functions;
- the costs, timing and outcomes of regulatory reviews;
- the number and characteristics of product candidates that we pursue;
- the costs of preparing, filing and prosecuting patent applications and maintaining, enforcing and defending intellectual property-related claims;
- the costs for manufacturing-related services for our product candidates in clinical development;
- the rate of technological advancements for the indications that we target;

- our ability to establish strategic alliances, collaborations and licensing or other arrangements on terms favorable to us;
- the costs to satisfy our obligations under existing and potential future alliances and collaborations;
- the timing, receipt and amount of sales or royalties, if any, from our potential products; and
- the extent and scope of our general and administrative expenses.

We anticipate that implementing our strategy will require substantial increases in our capital expenditures and other capital commitments as we expand our clinical trial activity, as our clinical-stage and preclinical product candidates advance through the development cycle, as we progress our programs in the therapeutic focus areas of our alliance with GlaxoSmithKline and our preclinical research collaboration with AstraZeneca and as we invest in additional product opportunities and research programs and expand our research and development infrastructure. We do not expect our existing capital resources to be sufficient to enable us to fund the completion of the development of any of our product candidates. We currently expect our existing capital resources to be sufficient to fund our operations at least through the third quarter of 2010, without taking into account amounts that we would be entitled to receive from AstraZeneca or GlaxoSmithKline if development milestones with respect to AZD3480 (TC-1734) or TC-6499 are achieved. However, our operating plan may change as a result of many factors, including those described above. We may need additional funds sooner than planned to meet operational needs and capital requirements for product development.

We do not expect to generate sufficient cash from our operations to sustain our business for the foreseeable future. We expect our continuing operating losses to result in increases in our cash required to fund operations over the next several quarters and years. To the extent our capital resources are insufficient to meet future capital requirements, we will need to finance future cash needs through public or private equity offerings, debt financings, alliances, collaborations, or licensing arrangements. Additional equity or debt financing, alliances, collaborations, or licensing arrangements may not be available on acceptable terms, if at all. If adequate funds are not available, we may be required to delay, reduce the scope of or eliminate our research and development programs or obtain funds through arrangements with collaborators or others that may require us to relinquish rights to certain product candidates that we might otherwise seek to develop or commercialize independently. Additionally, any future equity funding may dilute the ownership of our stockholders.

We cannot estimate the completion dates and costs of our current internal research and development programs due to inherent uncertainties in outcomes of clinical trials and regulatory approvals of our product candidates. We cannot be certain that we will be able to successfully complete our research and development projects or successfully establish strategic alliances or collaborations for our product candidates. Our failure to complete our research and development projects could have a material adverse effect on our financial position or results of operations.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

The primary objective of our investment activities is to preserve our capital to fund operations. We also seek to maximize income from our investments without assuming significant risk. To achieve our objectives, we maintain a portfolio of cash equivalents and investments in a variety of securities that we believe to be of high credit quality. Our investments are typically short term. As of September 30, 2008, we had cash, cash equivalents and short-term investments of $93.7 million. A portion of our investments may be subject to interest rate risk and could fall in value if market interest rates increase. However, because our investments are short term in duration, we believe that our exposure to interest rate risk is not significant and estimate that an immediate and uniform 10% increase in market interest rates from levels as of September 30, 2008 would not have a material impact on the total fair value of our portfolio.

We contract for the conduct of some of our clinical trials and other research and development and manufacturing activities with contract research organizations, investigational sites and manufacturers in Europe and in India. We may be subject to exposure to fluctuations in foreign currency exchange rates in connection with these agreements. If the average Euro/U.S. dollar exchange rate or the average Indian Rupee/U.S. dollar exchange rate were to strengthen or weaken by 10% against the corresponding exchange rate as of September 30, 2008, we estimate that the impact on our financial position, results of operations and cash flows would not be material. We do not hedge our foreign currency exposures.

We have not used derivative financial instruments for speculation or trading purposes.

Item 4. Controls and Procedures

(a) *Evaluation of Disclosure Controls and Procedures*. Our management, with the participation of our chief executive officer and chief financial officer, evaluated the effectiveness of our disclosure controls and procedures in accordance with Rule 13a-15 under the Exchange Act as of the end of the period covered by this quarterly report. In designing and evaluating our disclosure controls and procedures, our management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and our management necessarily applied its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of the end of the period covered by this quarterly report, our chief executive officer and chief financial officer concluded that, as of such date, our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is (a) accumulated and communicated to our management, including our chief executive officer and chief financial officer, as appropriate to allow timely decisions regarding required disclosure and (b) recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms.

(b) *Changes in Internal Controls*. No change in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) occurred during the quarter ended September 30, 2008 that materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 6. Exhibits

The exhibits listed in the accompanying exhibit index are filed as part of this quarterly report.

Our trademarks include Targacept®, Inversine®, Pentad™, NNR Therapeutics™, TRIDMAC™ and AMPLIXA™. Any other service marks, trademarks and trade names appearing in this quarterly report are the property of their respective owners.

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 thereunto duly authorized.

TARGACEPT, INC.

Date: November 7, 2008

/s/ J. Donald deBethizy

J. Donald deBethizy
President and Chief Executive Officer
(*Principal Executive Officer*)

Date: November 7, 2008

/s/ Alan A. Musso

Alan A. Musso
Vice President, Chief Financial Officer and Treasurer
(*Principal Financial and Accounting Officer*)

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EXHIBIT INDEX

Exhibit Number	Description
31.1	Certification of the Chief Executive Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of the Chief Financial Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of the Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

Exhibit 31.1

CERTIFICATION

I, J. Donald deBethizy, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Targacept, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 7, 2008

/s/ J. Donald deBethizy

J. Donald deBethizy
President and Chief Executive Officer

Exhibit 31.2

CERTIFICATION

I, Alan A. Musso, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Targacept, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 7, 2008

/s/ Alan A. Musso

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

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Targacept, Inc. (the "Company") for the period ended September 30, 2008 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, J. Donald deBethizy, President and Chief Executive Officer of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 7, 2008

/s/ J. Donald deBethizy

J. Donald deBethizy
President and Chief Executive Officer

Exhibit 32.2

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Targacept, Inc. (the "Company") for the period ended September 30, 2008 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Alan A. Musso, Vice President, Chief Financial Officer and Treasurer of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 7, 2008

/s/ Alan A. Musso

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