Issuer Free Writing Prospectus Filed Pursuant to Rule 433 Relating to Preliminary Prospectus Dated March 24, 2006 Registration Statement No. 333-131050

Targacept, Inc.

April 11, 2006

Issuer: Targacept, Inc.

Common stock offered: 5,000,000 shares (excluding option to purchase up to 750,000 additional shares to cover over-allotments).

Price to public: \$9.00 per share.

Net proceeds to Targacept: Approximately \$40.7 million, or approximately \$47.0 million if the underwriters exercise their over-allotment option in

full, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

As set forth in the preliminary prospectus dated March 24, 2006 relating to this offering (the "Preliminary Prospectus"), we estimate that we will use approximately \$31 million of the net proceeds from this offering for specified research and development activities. We expect to use the remaining \$9.7 million of estimated net proceeds to fund general and administrative expenses, other research and development expenses, working capital needs and other general corporate purposes. We believe that our existing capital resources and the net proceeds from this offering will enable us to maintain currently planned operations through mid-2008. However, our operating plan may change as a result of many factors,

Based on the initial public offering price of \$9.00 per share, as of December 31, 2005 on a pro forma as adjusted basis,

including those described on page 10 of the Preliminary Prospectus.

Pro forma as adjusted balance

Pro forma as adjusted

sheet data:

capitalization:

Dilution:

Use of proceeds:

cash and cash equivalents would have been approximately \$65.7 million and total stockholders' equity would have been approximately \$61.9 million.

Based on the initial public offering price of \$9.00 per share, as of December 31, 2005 on a pro forma as adjusted basis, capital in excess of par value would have been approximately \$200.1 million, total stockholders' equity would have been

approximately \$61.9 million and total capitalization would have been approximately \$64.1 million.

Based on the initial public offering price of \$9.00 per share, our pro forma net tangible book value after this offering would have been \$61.4 million, or \$3.21 per share, as of December 31, 2005. This represents an immediate increase in pro forma net tangible book value of \$1.75 per share to our existing stockholders and an immediate dilution in pro forma net tangible book value of \$5.79 per share to investors purchasing in this offering at the initial public offering price. Investors purchasing shares of common stock in this offering will have purchased approximately 26.2% of our

outstanding common stock immediately following the completion of this offering and will have contributed approximately 23.2% of the total consideration paid for our common stock.

Participation of principal stockholders:

Three of our principal stockholders or affiliated entities have indicated an interest in purchasing up to an aggregate of 500,000 shares of our common stock in this offering in the amounts indicated below.

Beneficial Owner	Number of Shares to be Purchased in this Offering Based on Indications	Number of shares to be Beneficially Owned After this Offering Based on Indications
Entities affiliated with New Enterprise Associates	350,000	3,271,999
Entities affiliated with Oxford Bioscience Partners	75,000	967,856
Entities affiliated with Advent Private Equity Fund II	75,000	787,586

As a result of the participation in this offering by our principal stockholders or affiliated entities, our executive officers, directors and their affiliates will beneficially own approximately 39.0% of our common stock after this offering based on 19,104,838 shares of common stock outstanding after this offering.

The issuer has filed a registration statement (including a prospectus) with the SEC for the offering to which this communication relates. Before you invest, you should read the prospectus in that registration statement and other documents the issuer has filed with the SEC for more complete information about the issuer and this offering. You may get these documents for free by visiting EDGAR on the SEC web site at www.sec.gov. Alternatively, the issuer, any underwriter or any dealer participating in the offering will arrange to send you the prospectus if you request it by calling toll-free 1-800-503-4611.