



GlaxoSmithKline and Targacept Form Alliance in Therapeutics for CNS-related Disorders

London UK, Philadelphia, PA and Winston Salem, N.C. – July 27, 2007 – GlaxoSmithKline (GSK) and Targacept, Inc. (NASDAQ: TRGT) today announced a strategic alliance to discover, develop and market novel therapeutics that selectively target specified neuronal nicotinic receptors (NNRs).

The alliance includes Targacept's lead product candidates for pain: TC-2696, which is currently in a Phase 2 trial for acute post-operative pain, and TC-6499, a preclinical product candidate that is currently planned for development for neuropathic pain. Targacept has retained an option to co-promote TC-2696 and TC-6499 for pain to specialists and hospital-based physicians in the United States.

Leveraging Targacept's more than 20 years of focused research in the NNR field, the alliance also provides GSK with access to other discovery programs across five therapeutic focus areas. In addition to pain, the other therapeutic focus areas of the alliance are smoking cessation, obesity, addiction, and Parkinson's disease.

Under the terms of the agreement, GSK will make an initial upfront payment of \$35.0 million to Targacept, which includes an investment of \$15.0 million for the purchase of 1,275,502 shares of Targacept common stock. In addition, Targacept is eligible to receive up to \$1.5 billion in payments from GSK, contingent on the achievement of specified discovery, development, regulatory and commercial milestones across five therapeutic focus areas, as well as tiered double-digit royalties dependent on sales achieved.

In the alliance, Targacept will utilize its proprietary Pentad™ drug discovery technology to discover novel small molecule product candidates that target specified NNR subtypes and then would develop the most promising product candidate for each therapeutic focus area through a Phase 2 proof of concept trial. Targacept is eligible to receive success-based progress milestones from GSK as product candidates are advanced. Upon Targacept's achievement of clinical proof of concept for a lead product candidate for a particular therapeutic focus area, GSK would have an exclusive option to license product candidates in development in the alliance from that program. GSK would then assume full responsibility for funding of further clinical development and commercialization on a worldwide basis.

“The breadth of this alliance validates the importance of NNRs in the potential treatment of a broad range of CNS-related disorders and diseases,” said J. Donald deBethizy, Ph.D., President and Chief Executive Officer of Targacept. “This uniquely structured deal enables us to accelerate the progression of our pipeline, capitalize on our discovery and development expertise and leverage the resources of a premier global pharmaceutical company while retaining considerable value. The alliance also aligns with our business strategy to progress our pipeline through human proof of concept and partner selectively for late-stage development and commercialization in primary care fields.”

GSK will participate in the alliance through its Center of Excellence for External Drug Discovery (CEEDD). Hugh Cowley, M.D., Senior Vice President and head of the CEEDD said, “This alliance provides us access to innovative science and pioneering research and expertise in the promising NNR field. We believe there is tremendous potential for NNR therapeutics for a variety of CNS-related diseases and disorders, and look forward to working with Targacept to accelerate the development and delivery of new medicines to patients.”

Targacept will be holding a conference call today at 10:00 a.m. Eastern Time to discuss the alliance in more detail. Call details will be provided in a separate release.

About Neuronal Nicotinic Receptors (NNRs)

NNRs represent a new class of therapeutic targets with the potential to address significant unmet medical needs. NNRs are members of the superfamily of neurotransmitter-gated ion channel receptors and play a central role in modulating synaptic neurotransmission, fundamental intracellular signaling pathways, neuronal viability and synaptic architecture and function. Recent advances in NNR biology derive from an increased understanding of individual receptor subtypes, their genetic heterogeneity, and their diverse biological functions. Both preclinical and clinical evidence demonstrate the broad potential of NNRs as targets for novel therapies to treat dementia and neurodegenerative diseases, psychotic disorders such as schizophrenia, inflammatory diseases, acute nociceptive and neuropathic pain, and affective disorders such as major depression.

About Targacept

Targacept, a clinical-stage biopharmaceutical company, is a world leader in the discovery and development of NNR Therapeutics, a new class of drugs for the treatment of central nervous system diseases and disorders. Targacept’s product candidates selectively modulate neuronal nicotinic receptors that serve as key regulators of the nervous system to promote therapeutic effects and limit adverse side effects. Targacept has product candidates in clinical development for Alzheimer’s disease and cognitive deficits in schizophrenia, depression and anxiety disorders, and pain, as well as multiple preclinical programs in inflammation, smoking cessation, addiction, obesity and Parkinson’s disease. The company has ongoing strategic collaborations with AstraZeneca and GlaxoSmithKline. Additional information is available at www.targacept.com.

About the CEEDD

GlaxoSmithKline is enhancing the way it discovers and develops drugs by creating a small dedicated team that will feed the GSK pipeline solely through the efforts of its external alliances. The CEEDD (Center of Excellence for External Drug Discovery) was formed as further validation of GSK's strategy to create small, independent and accountable R&D teams (known as Centers of Excellence for Drug Discovery or CEEDDs). In essence, the CEEDD is virtualizing a portion of the GSK pipeline; namely, from target to clinical proof of concept, by forming multiple risk-sharing/reward-sharing alliances. Capitalizing on the speed and efficiency of its collaborators will allow GSK to deliver pharmaceuticals products faster to patients. For more information, visit the CEEDD at www.ceedd.com

About GlaxoSmithKline

GlaxoSmithKline is one of the world's leading research-based pharmaceutical and healthcare companies and is committed to improving the quality of human life by enabling people to do more, feel better and live longer. For more information, visit GlaxoSmithKline on the World Wide Web at www.gsk.com.

Forward-Looking Statements

Any statements in this press release about strategies, prospects, plans, expectations or objectives for Targacept, Inc., including, without limitation, statements regarding the progress, timing and scope of the research and development of our product candidates or related regulatory filings or clinical trials, our future operations, financial position, revenues or costs, and all other statements that are not purely historical in nature, constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Without limiting the foregoing, the words "may," "will," "could," "would," "should," "expect," "intend," "plan," "anticipate," "believe," "estimate," "predict," "project," "potential," "promise," "continue," "ongoing" and similar expressions are intended to identify forward-looking statements. Actual results 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 ability to successfully discover and develop product candidates for the therapeutic focus areas of our alliance with GSK; the results of clinical trials and non-clinical studies and assessments with respect to our current and future product candidates in development in our alliance with GSK; 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 patient enrollment or data analysis; the timing and success of submission, acceptance and approval of regulatory filings for our current and future product candidates in development in our alliance with GSK; our ability to obtain substantial additional funding; and our ability to obtain, maintain and enforce patent and other intellectual property protection for our product candidates and discoveries. Risks and uncertainties that we face are described in greater detail under the heading "Risk Factors" in our most recent Annual Report on Form 10-K

and in other filings that we make with the Securities and Exchange Commission. As a result of the risks and uncertainties, the results or events indicated by the forward-looking statements may not occur. We caution you not to place undue reliance on any forward-looking statement. In addition, any forward-looking statements in this release represent our views only as of the date of this release 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, whether as a result of new information, future events or otherwise, 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.

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