



Contact:

Stacey Jurchison
Director, Corporate Communications
PharmAthene, Inc.
Phone: 410-269-2610
Cell: 410-474-8200
JurchisonS@PharmAthene.com

FOR IMMEDIATE RELEASE

**PHARMATHENE'S RECOMBINANT BUTYRYLCHOLINESTERASE (rBChE) MAY
PLAY A NEUROPROTECTIVE ROLE IN ALZHEIMER'S DISEASE**

ANNAPOLIS, MARYLAND, April 9, 2008 — PharmAthene, Inc. (Amex: PIP) a biodefense company specializing in the development and commercialization of medical countermeasures against chemical and biological threats, announced today that scientists from the Hebrew University of Jerusalem, one of PharmAthene's collaboration partners, have recently obtained new data suggesting that recombinant butyrylcholinesterase (rBChE), a non-pegylated form of Protexia®, may have neuroprotective benefits.

Recent research conducted by Dr. Hermona Soreq and co-workers at the Alexander Silberman Life Sciences Institute at The Hebrew University of Jerusalem, in collaboration with PharmAthene, examined the role of rBChE in the prevention of amyloid plaques, which are believed to play a role in the development of Alzheimer's disease.

“The role of amyloid plaques in the pathophysiology of Alzheimer's disease is well documented, and a number of approaches have been studied which attempt to block their formation by interfering at critical stages in this complex pathway,” said Hermona Soreq, Ph.D., Professor of Molecular Biology and Dean of Sciences at The Hebrew University. “Our preliminary results are especially intriguing as they continue to suggest that rBChE is effective not only in inhibiting plaque formation, but also in potentially attenuating neurotoxicity. The accumulating data provide compelling evidence that rBChE may serve as a natural protector against amyloid toxicity. In view of the empirical evidence gathered to date, the role of rBChE in the pathogenesis of Alzheimer's disease merits closer scrutiny and understanding.”



Recent *in vitro* data have demonstrated that rBChE effectively blocked the formation of amyloid fibrils, precursors to plaque formation in the brain. These data were substantiated by transmission electron microscopy studies, which showed that rBChE dramatically suppressed the formation of fibrils, resulting in thinner and less branched filaments than would normally occur in patients with Alzheimer's disease.

More recent studies have also demonstrated that this plaque inhibitory activity is still active when peptide fragments of rBChE are used, rather than the full length protein. This may be an advantage in developing a product that can cross the blood brain barrier.

The formation of amyloid plaques in Alzheimer's disease is theorized to involve a structural transition of the amyloid beta peptide. New data generated by Dr. Soreq corroborate earlier findings, and demonstrate that both rBChE and its peptide fragments could disrupt amyloid beta organization and potentially limit its neurotoxicity.

David P. Wright, President and Chief Executive Officer of PharmAthene commented "The early research is certainly intriguing. While we are still a long way from understanding the utility of rBChE in patients with Alzheimer's disease, our next steps will include studying rBChE in a transgenic mouse model of Alzheimer's disease to evaluate its ability to inhibit or reduce amyloid plaque formation. If the results continue to be encouraging, it may allow PharmAthene to expand applications of rBChE to additional areas beyond organophosphorous nerve agent toxicity with potentially important benefits to society. Importantly, this is consistent with our strategy of developing dual-use applications for our biodefense programs in other commercial markets."

Alzheimer's disease is a progressive neurodegenerative disease which is estimated to affect more than 4.5 million Americans. One of the hallmarks of Alzheimer's disease is the accumulation of excessive amyloid plaques in areas of the brain that control memory and cognition. Amyloid multimers are believed to be neurotoxic and interfere with the normal communication between neurons. A growing body of scientific evidence suggests that the accumulation of amyloid plaques and neurofibrillary tangles in the brain may play an important role in the development and progression of Alzheimer's disease.

The work conducted under the Alzheimer's research program is based on a patent owned by Yissum (the technology transfer company of The Hebrew University of Jerusalem), entitled "*Human BChE Variants as Protectors from Amyloid Diseases*", which has been licensed to PharmAthene.

As part of the collaboration with Hebrew University, PharmAthene has an exclusive, worldwide license to the application of rBChE and its corresponding peptides for use in the field of Alzheimer's disease.

About Protexia®: Recombinant Human Butyrylcholinesterase (rBChE)

Protexia is a pegylated form of recombinant human butyrylcholinesterase (rBChE), a potent organophosphorous (OP) scavenger protein produced in the milk of transgenic goats, which is



being developed for use as a prophylactic against acute organophosphorous (OP) nerve agent toxicity.

About Chemical Weapons

Organophosphorous nerve agents, or anti-cholinesterase agents, were discovered in the 1930s following intensive research into new insecticides. Their discovery represents the beginning of modern chemical warfare. These agents cause toxicity by binding to and inhibiting acetylcholinesterase, an enzyme in the body that is essential for nervous system function, leading to increases in acetylcholine and “cholinergic crisis” that can cause loss of muscle control, respiratory failure, paralysis, convulsions, permanent brain damage and eventually death.

These so-called nerve gases, which are actually all liquids at room temperature, are lethal far more quickly and in far lower concentrations than other classical chemical warfare agents such as vesicants, choking agents and blood agents, and are effective both when inhaled and when absorbed through the skin. Nerve agents can be classified as either G-agents (sarin, soman, tabun) or V-agents (VX), both of which are exceedingly toxic.

About PharmAthene, Inc.

PharmAthene (AMEX:PIP) was formed to meet the critical needs of the United States and its allies by developing and commercializing medical countermeasures against biological and chemical weapons. PharmAthene’s lead programs include Valortim™ for the prevention and treatment of anthrax infection and Protexia® for the prevention and treatment of morbidity and mortality associated with exposure to chemical nerve agents. For more information about PharmAthene, please visit www.PharmAthene.com.

About Yissum:

Yissum was founded in 1964 to protect the Hebrew University’s intellectual property and commercialise it. An estimated \$1 billion in annual sales are generated by products based on Hebrew University technologies licensed out by Yissum. Ranked among the top technology transfer companies in the world, Yissum has registered 5500 patents covering 1600 inventions; licensed out 480 technologies and spun out 65 companies. Yissum’s business partners span the globe and include companies such as Novartis, Microsoft, Johnson & Johnson, Merck, Intel, Teva and many more.

Statement on Cautionary Factors

Except for the historical information presented herein, matters discussed may constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that are subject to certain risks and uncertainties that could cause actual results to differ materially from any future results, performance or achievements expressed or implied by such statements. Statements that are not historical facts, including statements preceded by, followed by, or that include the words “potential”; “believe”; “anticipate”; “intend”; “plan”; “expect”; “estimate”; “could”; “may”; “should”; “could”; or similar statements are forward-looking statements. PharmAthene disclaims, however, any intent or obligation to update these forward-looking statements. Risks and uncertainties include risk associated with the reliability of the results of the studies relating to human safety and possible adverse effects resulting from the



administration of Protexia, unexpected funding delays, unforeseen safety issues, unexpected determination that Protexia proves not to be effective or capable of being marketed as a product, as well as risks detailed from time to time in PharmAthene's public disclosure filings with the U.S. Securities and Exchange Commission (the "SEC"). There can be no assurance that such development efforts will succeed or that other developed products will receive required regulatory clearance, or that, even if such regulatory clearance were received, such products would ultimately achieve commercial success. Copies of PharmAthene's public disclosure filings are available from its investor relations department.

###