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Peregrine Pharmaceuticals Reports Data from Newly Published Research Reinforcing Potential of Targeting PS in HIV Infection

Article in Journal of Experimental Medicine Shows that PS-Targeting Antibodies Can Block

One of the Ways the AIDS Virus Gains Entry into Blood Cells

TUSTIN, Calif., April 5, 2010 -- Peregrine Pharmaceuticals, Inc. (Nasdaq: PPHM) today announced the publication of data showing phosphatidylserine (PS)-targeting antibodies can block one of the key ways the AIDS virus gains entry into certain blood cells. The data were generated by scientists at Duke University as part of their ongoing AIDS vaccine research. The article titled "Anti-Phospholipid Human Monoclonal Antibodies Inhibit CCR5-Tropic HIV-1 and Induces β-Chemokines" is available online today and will be published in the April 12, 2010 edition of the *Journal of Experimental Medicine*. Peregrine's PS-targeting antibodies are currently in clinical development for the treatment of cancer and HCV infections.

In early stage *in vitro* studies reported by Dr. Anthony Moody of Duke University, lead author of the publication, PS-targeting antibodies developed or licensed by Peregrine blocked HIV from docking with its most commonly used entry point into blood cells--the CCR5 receptor. The antibodies accomplished this indirectly, by binding to white blood cells called monocytes and causing them to secrete proteins called chemokines, which have the ability to block entry of HIV into the cell. In the presence of monocytes, the antibodies prevented HIV infection *in vitro* 85% of the time in these studies.

Investigators believe the finding has particular strategic importance because most HIV strains use the CCR5 receptor to gain entry into a cell. In addition, it is one of the earliest events in the process of infection, so being able to intervene at this juncture could potentially be clinically useful.

Dr. Philip Thorpe, professor of pharmacology at UT Southwestern Medical Center, a pioneer in the development of PS-targeting therapies and an author of the new publication commented, "This study from our colleagues at Duke University illuminates another intriguing aspect of phospholipid-targeting antibodies--the diversity of their anti-viral mechanisms and broad spectrum anti-viral potential. The PS-targeting antibodies in this study showed potent ability to induce specific effects that impact viruses, in this case by stimulating the production of immune-related proteins that block the entry of HIV into cells. We look forward to the results of additional studies of these antibodies that are planned at Duke."

Barton Haynes, M.D., director of the Duke Human Vaccine Institute and senior author of the study commented, "These results indicate that targeting a host cell lipid such as PS as an anti-viral strategy is a promising concept of relevance to new therapeutic and possibly prophylactic innovations for HIV."

Peregrine's most advanced PS-targeting antibody bavituximab is currently being studied in a clinical trial for the treatment of patients co-infected with hepatitis C virus (HCV) and HIV. Earlier Phase I studies in HCV patients showed that bavituximab was well tolerated and it exhibited encouraging signs of anti-viral activity. Under a major biodefense initiative, bavituximab and a fully human equivalent antibody are also in preclinical development for the treatment of viral hemorrhagic fevers (VHF). In November, 2009 Peregrine researchers presented positive data on progress in this program, showing that the PS-targeting antibodies increase survival in a model of lethal VHF infection.

"This publication is the latest in a series of presentations and publications that supports the potential of PS as a target in HIV infection and provides new insights into the unique mechanisms of action of our PS-targeting antibodies," said Steven W. King, president and CEO of Peregrine. "While past studies have focused on the broad nature of the PS target, these new data reveal that some of these antibodies may also have highly specific effects."

Anti-Phospholipid Human Monoclonal Antibodies Inhibit CCR5-Tropic HIV-1 and Induces β-Chemokines, M. Anthony Moody et al., *Journal of Experimental Medicine*. Published Online First April 5, 2010.

The study was supported by a Collaboration for AIDS Vaccine Discovery grant from the Bill and Melinda Gates Foundation, a Veterans Affairs Merit Review Award, an NIAID NIH grant, the Center for HIV/AIDS Vaccine Immunology as well as resources from the University of Alabama and the Birmingham Center for AIDS Research.

About PS-Targeting Anti-Viral Agents

Phosphatidylserine (PS), a lipid molecule normally found only on the inside of cell membranes, becomes exposed on the outside of the membranes of viruses and virally infected cells. A growing body of published scientific research confirms that exposed PS is involved in the pathogenesis of many serious infectious diseases. Exposed PS enables viruses to evade immune recognition and dampens the body's normal responses to infection. By masking the exposed PS, PS-targeting antibodies are believed to block these effects, allowing the body to develop a robust immune response to the pathogen.

Peregrine's PS-targeting antibodies have been shown to help clear infectious virus from the bloodstream and to induce antibody-dependent cellular cytotoxicity. PS is exposed on the outer membrane of cells infected with a wide range of viruses, including HIV, influenza, herpes simplex viruses, hemorrhagic fever viruses, cytomegalovirus, measles and members of the smallpox and rabies virus families. Because the PS target is host-derived rather than pathogen-derived, PS-targeting antibodies are expected to be less susceptible to the viral genomic mutations that lead to anti-viral drug resistance. Peregrine is the exclusive licensee of broad patents covering anti-viral applications of PS-targeting antibodies issued to the University of Texas System.

About Peregrine Pharmaceuticals
Peregrine Pharmaceuticals, Inc. is a biopharmaceutical company with a portfolio of innovative monoclonal antibodies in clinical trials for the treatment of cancer and serious viral infections. The company is pursuing three separate clinical programs in cancer and HCV infection with its lead product candidates bavituximab and Cotara®. Peregrine also has in-house manufacturing capabilities through its wholly owned subsidiary Avid Bioservices, Inc. (www.avidbio.com), which provides development and biomanufacturing services for both Peregrine and outside customers. Additional information about Peregrine can be found at www.peregrineinc.com.

Safe Harbor Statement: Statements in this press release which are not purely historical, including statements regarding Peregrine Pharmaceuticals' intentions, hopes, beliefs, expectations, representations, projections, plans or predictions of the future are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. The forward-looking statements involve risks and uncertainties including, but not limited to, the risk that results from larger trials will not be consistent with results experienced in earlier trials. Factors that could cause actual results to differ materially or otherwise adversely impact the company's ability to obtain regulatory approval for its product candidates include, but are not limited to, uncertainties associated with completing preclinical and clinical trials for our technologies; the early stage of product development; the significant costs to develop our products as all of our products are currently in development, preclinical studies or clinical trials; obtaining additional financing to support our operations and the development of our products; obtaining regulatory approval for our technologies; anticipated timing of regulatory filings and the potential success in gaining regulatory approval and complying with governmental regulations applicable to our business. Our business could be affected by a number of other factors, including the risk factors listed from time to time in the company's SEC reports including, but not limited to, the annual report on Form 10-K for the year ended April 30, 2009 and the quarterly report on Form 10-Q for the quarter ended January 31, 2010. The company cautions investors not to place undue reliance on the forward-looking statements contained in this press release. Peregrine Pharmaceuticals, Inc. disclaims any obligation, and does not undertake to update or revise any forward-looking statements in this press release.

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