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## **Peregrine Pharmaceuticals Presents Promising Antiviral Data at 2009 Chemical and Biological Defense Science & Technology Conference**

- In Preclinical Studies, Peregrine's PS-Targeting Antibodies Including Baviximab Demonstrated Broad Spectrum Binding to Viruses and Virally Infected Cells Representing Three Viral Hemorrhagic Fever (VHF) Families -**
- Preclinical Efficacy Studies Showed that a Single Dose of PS-Targeting Antibodies Increased the Survival of Hamsters Lethally Infected with VHF Viruses -**
- Baviximab is Also Currently Being Evaluated in a Phase I Clinical Trial in Patients Co-infected with HCV and HIV -**

TUSTIN, Calif., Nov 18, 2009 /PRNewswire-FirstCall via COMTEX News Network/ -- Peregrine Pharmaceuticals, Inc. (Nasdaq: PPHM) today announced that researchers presented positive data on progress in its federally funded preclinical viral hemorrhagic fever (VHF) program, confirming that its phosphatidylserine (PS)-targeting antibodies bind to VHF viruses and virally infected cells and increase survival in a model of lethal VHF infection. The data were presented at the 2009 Chemical and Biological Defense Science and Technology (CBD S&T) Conference in Dallas, Texas.

Researchers presented interim data from Peregrine's multi-year program to assess the company's PS-targeting antibodies as broad-spectrum agents for the treatment of viral hemorrhagic fevers, a potential biodefense threat. The studies evaluated the activity of Peregrine's PS-targeting antibodies against representatives of major VHF virus families. In these studies, researchers confirmed broad spectrum PS-targeting antibody binding to VHF viral particles and also demonstrated that Peregrine's PS-targeting antibodies bind to mammalian cells infected with hemorrhagic fever viruses. Initial pharmacokinetic and dosing studies also showed that the PS-targeting antibodies are sustainable in the blood at therapeutically relevant concentrations.

Importantly, initial antiviral efficacy studies reported at the conference were encouraging, showing that a single dose of a PS-targeting antibody increased the survival of hamsters infected with lethal doses of viruses from two different VHF virus families. Based on these positive findings, additional efficacy studies, including repeat dose and combination therapy studies, are now underway.

Dr. Amy Brideau-Andersen, head of Peregrine's preclinical antiviral program and lead author of the studies presented at the CBD S&T Conference, noted, "The early data from our antiviral program designed to test the potential of our PS-targeting antibodies to prevent and treat viral hemorrhagic fevers is very encouraging, and we are pleased to have the opportunity to present our findings at this major meeting of our biodefense peers. Results to date are confirming that our PS-targeting antibodies may have broad spectrum potential against multiple viruses, which could make them valuable against both hemorrhagic fever viruses and other biodefense threats. Further efficacy studies are already underway and we look forward to reporting on our progress as we continue to advance this important program."

Researchers also reported that studies are in progress to determine the pharmacokinetics and efficacy of PS-targeting antibodies in additional VHF infection models, as well as to develop lyophilized formulations suitable for an extended shelf life under a variety of storage and shipping conditions. In addition, Peregrine is developing a second-generation, fully human PS-targeting antibody as part of its federally funded antiviral program efforts.

"These positive initial efficacy data after administration of only a single dose is an early confirmation of the potential of our anti-PS antibodies as broad-spectrum therapeutics for VHF," said Steven W. King, president and CEO of Peregrine. "They also reflect the excellent progress being achieved by our multi-institutional project team. This first public presentation of data from our ongoing federally funded program is also consistent with our extensive preclinical and clinical experience showing the broad-spectrum antiviral potential of our PS-targeting technology platform and we look forward to sharing more results from the studies as further progress is made."

Under a major biodefense initiative, baviximab and a fully human equivalent antibody are in preclinical development for the treatment of viral hemorrhagic fevers under a federal contract worth up to \$44.4 million. This contract, which is funding work at Peregrine and at several collaborating institutions, was awarded based on positive data from earlier studies in animals infected with VHF that was funded by a previous grant from NIAID.

Bavituximab, which is Peregrine's most advanced PS-targeting antibody, is currently being studied in a clinical trial for the treatment of patients co-infected with HCV and HIV. Phase I studies in HCV patients showed that bavituximab was well tolerated and it exhibited encouraging signs of anti-viral activity. Bavituximab is also being tested in Phase II clinical trials for the treatment of advanced breast cancer and non-small cell lung cancer.

Peregrine's collaborators at UT Southwestern Medical Center, the University of Utah at Logan and the University of Texas Medical Branch at Galveston also contributed to this research. The poster, "Phosphatidylserine-Targeting Antibodies as Therapeutic Agents for Viral Hemorrhagic Fever Infections," A. Brideau-Andersen, M. Soares, P. Thorpe, B. Gowen, J. Julander, A. Grant, C.J. Peters, W. Chu, S. Hirst, M. Wakabayashi, K. Schlunegger, B. Freimark, was presented on November 17, 2009 at the 2009 Chemical and Biological Defense Science and Technology Conference.

#### *About Phosphatidylserine (PS)-Targeting Antiviral Agents*

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 rapidly growing body of published scientific research confirms that exposed PS is directly 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 (CMV), measles and members of the smallpox and rabies virus families, suggesting that PS-targeting agents may provide a broad platform for treating viral infections. Because the PS target is host-derived rather than pathogen-derived, PS-targeting antibodies are also expected to be much less susceptible to the viral genomic mutations that lead to antiviral drug resistance.

#### *About Peregrine Pharmaceuticals*

Peregrine Pharmaceuticals, Inc. is a biopharmaceutical company with a portfolio of innovative product candidates in clinical trials for the treatment of cancer and serious virus infections. The company is pursuing three separate clinical programs in cancer and HCV infection with its lead product candidates bavituximab and Cotara(R). Peregrine also has in-house manufacturing capabilities through its wholly owned subsidiary Avid Bioservices, Inc. ([www.avidbio.com](http://www.avidbio.com)), which provides development and bio-manufacturing services for both Peregrine and outside customers. Additional information about Peregrine can be found at [www.peregrineinc.com](http://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 the Company will not receive the full \$44.4 million awarded under the federally funded program, the risk that bavituximab will not achieve broad-spectrum anti-viral effects, the risk that PS-targeting antibodies will not be less susceptible to viral mutations and the risk that the results of clinical trials will not correlate to the preclinical study results. It is important to note that the company's actual results could differ materially from those in any such forward-looking statements. Factors that could cause actual results to differ materially 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 July 31, 2009. 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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