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Peregrine Pharmaceuticals Reports Studies Published in 'Science' Highlight Key Role of Phosphatidylserine (PS) in Viral Infections

**- Two New Studies Provide Further Evidence that PS Plays a Critical Role in Some Viral Infections -
- Peregrine's Anti-PS Antibody Bavituximab is Currently Being Assessed in a Clinical Trial in HCV Patients Co-Infected with HIV -**

TUSTIN, Calif., May 13, 2008 /PRNewswire-FirstCall via COMTEX News Network/ -- Peregrine Pharmaceuticals, Inc. (Nasdaq: PPHM), a clinical stage biopharmaceutical company developing monoclonal antibodies for the treatment of cancer and hepatitis C virus (HCV) infection, today reported that two independent studies recently published in the journal *Science* (1,2) highlight the critical importance of the cellular membrane lipid phosphatidylserine (PS) in the ability of some enveloped viruses to infect cells. Peregrine is a leader in the development of anti-PS therapies. Its lead anti-PS antibody bavituximab has successfully completed two Phase I trials in HCV patients and is currently in a clinical trial in patients co-infected with HCV and HIV. Bavituximab is also being assessed in a Phase I single agent cancer study and in Phase II cancer trials in combination with chemotherapy.

"These two excellent studies from independent groups of researchers exemplify the growing interest in the scientific community in the role of PS in viral infectivity and important aspects of immunity," said Steven W. King, president and CEO of Peregrine. "In particular, we believe that the paper discussing the vaccinia virus(1) independently confirms some of the key mechanisms underlying the anti-viral potential of our anti-PS antibodies. It shows that PS is essential to the ability of the virus to infect cells, and that when PS is blocked, infection cannot occur. The study also discusses how PS helps the virus to evade immune system recognition and destruction, a key secondary mechanism we believe is operative in both the anti-viral and anti-cancer applications of our anti-PS technology."

In a separate *Science* Perspective article discussing the studies(3), the commentators note that the essential role of PS may not be limited to vaccinia infections, but may also play a role in HIV infection. Vaccinia and HIV are both enveloped viruses, and as the articles discuss, PS becomes exposed on the surface of enveloped viruses and the cells they infect. This is consistent with findings by Peregrine researchers showing that its anti-PS antibodies bind to every enveloped virus tested. The company's anti-PS antibodies have also demonstrated promising anti-viral activity against a number of enveloped viruses in preclinical tests, as well as in clinical trials in patients infected with HCV, which is an enveloped virus. In addition to the ongoing clinical trial in HCV patients co-infected with HIV, Peregrine's anti-PS antibodies are currently being studied in animal models of HIV.

Peregrine's anti-PS technology is exclusively licensed from the University of Texas Southwestern Medical Center at Dallas, where Dr. Philip Thorpe has been a pioneer in investigating the role of anti-phosphatidylserine therapies in viral infections and cancer for more than a decade.

"It is gratifying to see the growing momentum of scientific interest and inquiry in the unique role of PS in immune system function and dysfunction," said Dr. Thorpe. "Our extensive work in the potential of anti-PS therapies for treating virus infections and cancer has been predicated on the same types of mechanisms that are elucidated and discussed in these first-rate studies, and we welcome the independent corroboration and additional insights that this new research is providing to the field."

About Peregrine's Anti-PS Antibody Bavituximab

Peregrine's clinical stage monoclonal antibody bavituximab is in development for the treatment of certain viral diseases and cancer. It is the first in a new class of targeted anti-PS immunotherapeutics that binds to phosphatidylserine, a specific component of certain cellular membranes. PS is normally present only on the inside of cell membranes, but becomes exposed on the external surface of enveloped viruses and the cells they infect. Enveloped viruses are responsible for about half of all human viral diseases, including HCV, influenza, HIV, cytomegalovirus and other virus strains. Scientists believe that bavituximab helps block the ability of viruses to infect cells and also helps stimulate the body's natural immune defenses to destroy both the virus particles and infected cells. Since the PS targeted by bavituximab is primarily exposed on diseased cells, healthy cells should not be affected.

In preclinical studies, bavituximab has demonstrated the ability to bind to a wide range of enveloped viruses and virally infected cells and has shown promising activity in animal models of serious viral diseases. Bavituximab appeared well tolerated with no dose limiting adverse events and showed encouraging signs of antiviral activity as monotherapy in two Phase I trials in patients

with chronic hepatitis C viral infection. A clinical trial in patients co-infected with HCV and HIV is now underway, and additional studies in HCV patients are planned. Similar to their proposed anti-viral mechanism, anti-PS antibodies also bind to phosphatidylserine exposed on tumor blood vessels in all solid cancers tested to date. Bavituximab demonstrated promising signs of anti-tumor activity in a Phase I trial in combination with chemotherapy in patients with advanced solid tumors, and Phase II cancer trials are underway.

1. Vaccinia Virus Uses Macropinocytosis and Apoptotic Mimicry to Enter Host Cells, Jason Mercer and Ari Helenius* Science 25 April 2008: Vol. 320. no. 5875, pp. 531 - 535

2. Role of C. elegans TAT-1 Protein in Maintaining Plasma Membrane Phosphatidylserine Asymmetry, Monica Darland-Ransom, Xiaochen Wang,* Chun-Ling Sun,* James Mapes, Keiko Gengyo-Ando, Shohei Mitani, Ding Xue, Science 25 April 2008: Vol. 320. no. 5875, pp. 528 - 531

3. CELL BIOLOGY: A One-Sided Signal, Gregory D. Fairn and Sergio Grinstein (25 April 2008)Science 320 (5875), 458.

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 hepatitis C virus (HCV) infection. 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), which provides development and bio-manufacturing 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 the promising anti-viral activity demonstrated against enveloped viruses in preclinical studies may not be demonstrated in clinical trials. 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, 2007 and the quarterly report on Form 10-Q for the quarter ended January 31, 2008. 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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