March 13, 2014

Preclinical Data Presentations at Keystone Symposia Highlight Broad Immunotherapy Potential of Peregrine Pharmaceuticals' PS-Targeting Antibodies

Oral Plenary Presentation Details Ability of PS-Targeting Antibodies to Reactivate Tumor Immunity at Multiple Levels and Enhance the Anti-Tumor Effects of Anti-PD-1 Antibodies; Data Presented Supports PS-Binding Antibody's Ability to Inhibit HIV Infection In Vitro; Recent Data Supports the PS Mediated Immunosuppression in Aiding Infectious Disease Progression Opening the Potential of PS Targeting Immune Checkpoint Therapeutic Combinations

TUSTIN, CA -- (Marketwired) -- 03/13/14 -- Peregrine Pharmaceuticals, Inc. (NASDAQ: PPHM) (NASDAQ: PPHMP) today announced that preclinical data presented at two Keystone Symposia support the immune-stimulatory mechanism of action and therapeutic potential of the company's phosphatidylserine (PS)-targeting antibodies in both oncology and antiviral therapeutic areas. These data were detailed in presentations at the Keystone Immune Evolution in Cancer symposium in Whistler, British Columbia, Canada and the Keystone HIV Pathogenesis - Virus vs. Host symposium in Banff, Alberta, Canada. Peregrine's lead PS-targeting antibody, bavituximab, is currently being evaluated in second-line non-small cell lung cancer (NSCLC) as part of the SUNRISE pivotal Phase III clinical trial.

In a poster titled, "Phosphatidylserine-Targeting Antibody Triggers β-Chemokine Release from Monocytes by Cell-Cell Crosslinking and is a Potent Inhibitor of HIV-1 In Vitro", Cyril Empig, Ph.D., associate director of preclinical research in infectious disease at Peregrine, presented data from studies conducted by Duke University and Peregrine researchers that further characterizes the mechanism by which the PS-binding antibody PGN632 inhibits the HIV infection of cells. Results revealed that PGN632 stimulates immune cells to link together and secrete molecules that block viral receptors used by HIV to infect cells. Furthermore, the immune-stimulatory mechanism of PS-targeting antibodies was further validated as study results showed that the antiviral mechanism of action was dependent on using the full length antibody rather than an antibody fragment that simply blocks PS.

"The immunosuppressive effects of phosphatidylserine, or PS, during routine cell death and the way in which tumors and infectious diseases exploit high levels of PS to evade immune surveillance are now very well-established through an abundance of peer-reviewed scientific publications from researchers worldwide," said Cyril Empig, Ph.D., associate director of preclinical research in infectious disease at Peregrine. "PGN632 appears to have an antiviral mechanism of action that is quite potent at inhibiting HIV in vitro and we look forward to further collaborative studies using PGN632 and in combination with other immune enhancing agents to evaluate their potential therapeutic effects in vivo."

In an oral presentation titled, "Phosphatidylserine-Targeting Antibodies Induce M1 Macrophage Polarization, Promote Myeloid Derived Suppressor Cell Differentiation and Boost Tumor-Specific Immunity" Xianming Huang, Ph.D., of The University of Texas Southwestern Medical Center in Dallas, presented data from studies demonstrating that PS-targeting antibodies override PS-mediated immune suppression in tumors and induce multiple downstream immune-stimulatory effects. Results showed a reduction of highly immunosuppressive myeloid derived suppressor cells (MDSC), increases in inflammatory cytokines, tumor-fighting M1 macrophages, mature dendritic cells and tumor-specific cytotoxic T-cells. Additionally, combination therapy studies utilizing a PS-targeting antibody with an anti-PD-1 antibody yielded enhanced therapeutic results in a preclinical model of melanoma, including delays and reductions in tumor growth compared to either antibody administered alone.

"Data presented at Keystone this week also point to increasing recognition of PS as playing an immunosuppressive role during the chronic phase of infectious disease. The supportive data presented this week will allow us to further insert PS into the immunotherapy discussion and we look forward to the possibility for future potential collaborative studies in both oncology and infectious diseases," said Jeff T. Hutchins, Ph.D., vice president of preclinical research at Peregrine. "We are pleased that PS and the PS receptor pathway have attracted an increasing amount of attention among cancer immunotherapy researchers and that PS is now seen as both an upstream immune checkpoint and novel drug target in this promising new area of cancer treatment."

Copies of these posters are located in the Upcoming Events section of the Investors tab of Peregrine's website www.peregrineinc.com.

About Bavituximab: A Targeted Immunotherapy
Bavituximab is a first-in-class phosphatidylserine (PS)-targeting monoclonal antibody that represents a new approach to

treating cancer. PS is a highly immunosuppressive molecule usually located inside the membrane of healthy cells, but "flips" and becomes exposed on the outside of cells that line tumor blood vessels, creating a specific target for anti-cancer treatments. PS-targeting antibodies target and bind to PS and block this immunosuppressive signal, thereby enabling the immune system to recognize and fight the tumor. These data detailing the immune-stimulatory mechanism of action of PS-targeting antibodies, such as the company's lead drug candidate bavituximab, are the subject of a manuscript published in the October 2013 issue of the American Association for Cancer Research (AACR) peer-reviewed journal, Cancer Immunology Research . Bavituximab is currently being evaluated in several solid tumor indications, including non-small cell lung cancer, breast cancer, liver cancer and rectal cancer with a trial in advanced melanoma anticipated to initiate in the near future.

About Keystone Symposia
Keystone Symposia serve as a catalyst for the advancement of biomedical and life sciences by connecting scientists within and across disciplines at conferences and workshops held at venues that create an environment conducive to information exchange, generation of new ideas and acceleration of applications that benefit society.

About Peregrine Pharmaceuticals, Inc.
Peregrine Pharmaceuticals, Inc. is a biopharmaceutical company with a pipeline of novel drug candidates in clinical trials for the treatment and diagnosis of cancer. The company is developing multiple clinical programs in cancer with its lead immunotherapy candidate bavituximab while seeking a partner to further advance its novel brain cancer agent Cotara®. Peregrine also has in-house cGMP manufacturing capabilities through its wholly-owned subsidiary Avid Bioservices, Inc. (www.avidbio.com), which provides development and biomanufacturing services for both Peregrine and third-party 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 results from human clinical studies involving combinations of bavituximab with an anti-CTLA-4 or an anti-PD-1 antibody may not correlate with the data from the preclinical studies. 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 our reports filed with the SEC including, but not limited to, our annual report on Form 10-K for the fiscal year ended April 30, 2013 as well as any updates to these risk factors filed from time to time in the company's other filings with the Securities and Exchange Commission. 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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Source: Peregrine Pharmaceuticals