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Presentation at Annual Society of Surgical Oncology Meeting Updates Progress in Investigator-Sponsored Phase I/II Trial of Peregrine's Bavituximab in Combination With Sorafenib in Liver Cancer

Results Support Potential of Bavituximab in Combination With Sorafenib; Investigator is Encouraged by Promising Results as Phase II Enrollment Nears Completion

TUSTIN, CA -- (Marketwired) -- 03/14/14 -- Peregrine Pharmaceuticals, Inc. (NASDAQ: PPHM) (NASDAQ: PPHMP), today announced the presentation of an update to the ongoing Investigator-Sponsored Trial (IST) of its immunotherapy bavituximab in combination with the chemotherapy sorafenib (Nexavar®) in patients with advanced hepatocellular carcinoma (HCC) or liver cancer. The oral presentation was given at the 67th Society of Surgical Oncology (SSO) Annual Cancer Symposium being held March 12-15, 2014 at the Phoenix Convention Center in Phoenix, Arizona.

In a presentation titled: "Combination of Bavituximab and Sorafenib Inhibits HCC Growth: Results of Preclinical Data and a Phase I Study" Dr. Adam Yopp, Assistant Professor of Surgery at the University of Texas Southwestern Medical Center, Dallas, Texas provided an overview of the preclinical data and the ongoing Phase I/II trial.

"The Phase II portion of this trial is ongoing with 34 of the 38 intended patients currently enrolled, 10 of which are currently on treatment with the longest one on treatment for 18 months," said Dr. Yopp. "This open-labeled trial is almost complete and while the results are preliminary, they are promising. I am excited about this potential combination given the new understandings about bavituximab's mechanism and I look forward to sharing the full set of data from this Phase II trial later this year."

In his presentation, Dr. Yopp reviewed preclinical data demonstrating that sorafenib induces PS exposure on endothelial cells in vitro and in vivo and that antibody-mediated PS blockade revitalizes the immune response in murine HCC xenografts and enhances the activity of sorafenib. Researchers determined that the combination of bavituximab and sorafenib is superior to sorafenib alone at treating C3A HCC in mice.

Dr. Yopp then reviewed results from the Phase I portion of this Phase I/II trial which enrolled 10 patients with advanced liver cancer. Results demonstrated that the combination of bavituximab and sorafenib was well-tolerated with common toxicities at all grades related to sorafenib and that no dose-limiting toxicities were reached for bavituximab at any of the treatment levels (0.3, 1.0, and 3.0 mg/kg). This supported the progression into the Phase II portion with the 3.0 mg/kg dose.

The Phase II portion of this trial is a single-center, single-arm, non-randomized, open-label trial with the primary endpoint of radiologic time to progression with imaging occurring at 6 week intervals. Secondary endpoints of the trial include overall survival (OS), progression free survival (PFS), safety and response rates. The trial is scheduled to enroll 38 patients with advanced liver cancer. In addition, in order to leverage recent understandings surrounding the immune-stimulatory mechanism of action of bavituximab, several additional components have been installed into this portion of the trial. These include plasma and serum collection and tissue biopsies for evaluating changes in immune response following bavituximab treatment. Specifically, to assess whether combination therapy reactivates tumor immunity by changing the tumor microenvironment from immunosuppressive to immunoreactive, changing the tumor infiltrating cell composition or inducing T cell response to tumor antigens.

More information on this trial can be found at ClinicalTrials.gov using the Identifier NCT01264705.

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 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.

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Nexavar® (sorafenib) is a registered trademark of Bayer Pharmaceuticals.

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