

## **Encouraging Results in Breast and Pancreatic Cancers for Patients Treated With Peregrine's Novel Immunotherapy Bavituximab Presented at ASCO**

Interim Data Shows 85% Overall Response Rate With 15% Complete Response Rate in HER2-Negative MBC; Final Data From Company's Phase II Pancreatic Cancer Trial Shows Promising Overall Survival Trends Consistent With Immunotherapeutic Treatments

TUSTIN, CA -- (Marketwired) -- 06/03/13 -- Peregrine Pharmaceuticals, Inc. (NASDAQ: PPHM) reported today that data was presented at the 2013 ASCO Annual Meeting from two clinical trials evaluating the company's lead clinical candidate bavituximab. In the first study presented, interim data from a Phase I trial evaluating bavituximab plus paclitaxel therapy in patients with HER2-negative metastatic breast cancer (MBC) showed that 85% of patients achieved an objective tumor response, including 15% of patients achieving a complete response (CR) measured in accordance with RECIST criteria.

In the second study, results from a randomized Phase II trial of bavituximab plus gemcitabine in patients with non-resectable Stage IV pancreatic cancer demonstrated more than a doubling of the overall response rate (ORR) and an improvement in overall survival (OS), including a delayed separation in the Kaplan-Meier survival curve that is commonly seen in clinical studies of promising cancer immunotherapies. These presentations were made at the 2013 American Society of Clinical Oncology (ASCO) Annual Meeting in Chicago, Illinois.

"The results of this Phase I breast cancer trial are encouraging as there were no new safety signals and excellent clinical responses," said Alison Stopeck, MD, Associate Professor of Medicine and Director, Clinical Breast Cancer Program at the University of Arizona Cancer Center. "There were several laboratory correlative studies associated with the trial which confirmed the safety of bavituximab with regard to coagulation parameters."

In this open-label trial, 14 patients with HER2-negative MBC were treated with paclitaxel (80 mg/m2) weekly for three weeks of each four-week cycle and bavituximab (3 mg/kg) was administered weekly beginning on day 15 after two weekly doses of paclitaxel. Interim results from 13 evaluable patients showed that 11 patients (85%) achieved an objective response, including 2 patients (15%) that achieved a complete response (CR). In addition, the combination of bavituximab and paclitaxel was safe and well-tolerated.

"The data from this study strongly support advancing the program into later stage clinical studies in advanced breast cancer," said Joseph Shan, vice president of clinical and regulatory affairs of Peregrine. "In addition to the impressive overall response rate, we are also seeing interesting trends in correlative lab results which we are evaluating as potential biomarkers."

In the pancreatic cancer study, the final results from a company-sponsored, open-label, randomized Phase II clinical trial of bavituximab and gemcitabine in 70 patients with previously untreated, Stage IV pancreatic cancer continued to show encouraging activity in this patient population with very advanced disease. Results showed that the combination of bavituximab plus gemcitabine resulted in more than a doubling of overall response rates (ORR) and an improvement in overall survival (OS) when compared with gemcitabine alone (control arm). In the trial, 9 of 32 (28%) patients treated with a combination of bavituximab and gemcitabine achieved an objective tumor response as compared to 4 out of 31 (13%) in the control arm. Median OS, the primary endpoint of the trial, was 5.6 months for the bavituximab plus gemcitabine arm and 5.2 months for the control arm (hazard ratio = 0.75).

The trial included the enrollment of patients with advanced metastatic disease, including poor performance status (ECOG 2) and significant liver involvement associated with rapid disease progression. Results from a subgroup analysis showed that the effect of bavituximab plus gemcitabine was more pronounced in patients with ECOG ≤ 1 and those without hepatic metastases.

"We believe that these data coupled with the intriguing results from subgroup analyses shed light on the future development potential of bavituximab as part of the currently evolving treatment landscape of pancreatic cancer," said Kerstin Menander, M.D., Ph.D, head of medical oncology at Peregrine.

A copy of the posters can be found at <a href="https://www.peregrineinc.com">www.peregrineinc.com</a>.

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, causing the tumor to evade immune detection. Bavituximab targets PS and blocks this immunosuppressive signal, resulting in the maturation of dendritic cells and cancer-fighting (M1) macrophages leading to the development of cytotoxic T-cells that fight solid tumors. Bavituximab is the lead drug candidate from the company's PS-targeting technology platform and is currently being evaluated in several solid tumor indications, including non-small cell lung cancer, breast cancer, liver cancer and rectal cancer.

## About Peregrine Pharmaceuticals, Inc.

Peregrine Pharmaceuticals, Inc. is a biopharmaceutical company with a portfolio of innovative monoclonal antibodies in clinical trials focused on the treatment and diagnosis of cancer. The company is pursuing multiple clinical programs in cancer with its lead product candidate bavituximab and novel brain cancer agent Cotara®. Peregrine also has in-house cGMP manufacturing capabilities through its wholly-owned subsidiary Avid Bioservices, Inc. (<a href="www.avidbio.com">www.avidbio.com</a>), which provides development and biomanufacturing services for both Peregrine and third-party customers. Additional information about Peregrine can be found at <a href="www.peregrineinc.com">www.peregrineinc.com</a>.

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 forwardlooking statements involve risks and uncertainties including, but not limited to, the risk that the tresults of future trials of bavituximab and paclitaxel in patients with HER2-negative metastatic breast cancer may not be consistent with the results experienced in the Phase I trial company may not be able to initiate the Phase III trial within its anticipated timeline, the risk that the results from the Phase III trial may not support a future BLA submission, the risk that the company may not have or raise adequate financial resources to complete the Phase III trial and the risk that the company may not find a suitable partner for the Phase III trial or the PS program. 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 Securities and Exchange Commission including, but not limited to, our annual report on Form 10-K for the fiscal year ended April 30, 2012 and our quarterly report on Form 10-Q for the quarter ended January 31, 2013. 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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