September 22, 2004

Peregrine Pharmaceuticals, Inc. Submits IND for Its Novel Anti-Cancer Agent Tarvacin(TM)

Pre-Clinical Results Indicate That Tarvacin™ May be Applicable For the Treatment of Multiple Cancer Types

TUSTIN, Calif., Sep 22, 2004 /PRNewswire-FirstCall via COMTEX/ -- Peregrine Pharmaceuticals, Inc. announced today that it has submitted its investigational new drug application (IND) to the U.S. Food and Drug Administration (FDA) to initiate the first clinical trial for its novel anti- cancer agent, Tarvacin™. This Phase 1 study will enroll up to 28 patients at up to three clinical centers. This study will be open to patients with advanced solid tumors that no longer respond to standard cancer treatments, regardless of tumor type. If the FDA has no comments, patient enrollment may effectively begin once the 30-day FDA review period has passed and the clinical protocol is approved by the participating clinical centers.

"The filing of this IND is a significant milestone for Peregrine and for our research collaborators at the University of Texas Southwestern Medical Center at Dallas who helped identify and develop this novel anti-cancer compound," said Joseph Shan, director of clinical and regulatory affairs at Peregrine. "Based on the promising pre-clinical data gathered to date, we are enthusiastic about the initiation of this clinical program and look forward to evaluating Tarvacin™ for the treatment of advance solid tumors."

The objectives of the Tarvacin™ clinical trial are (i) to determine the safety and tolerability of Tarvacin™ administered intravenously to patients; (ii) to characterize the pharmacokinetic profile of Tarvacin™ and; (iii) to define the dose limiting toxicities and maximum tolerated dose of Tarvacin™. During the 30-day FDA review period, Peregrine plans to finalize clinical site selection and submit the clinical protocol to participating clinical centers for approval.

"This IND filing represents the culmination of years of scientific research to understand and exploit phospholipids as potential therapeutic targets. We have presented exciting experimental results this year indicating how Tarvacin™ could be used effectively alone and in combination with existing cancer therapies," stated Dr. Philip Thorpe, professor of pharmacology at UT Southwestern. "We now look forward to the clinical development of Tarvacin™ at Peregrine while we continue to explore other potential clinical applications of the targeting platform."

About Tarvacin™

Tarvacin™ is part of Peregrine's Anti-Phospholipid Therapy (APT) platform which binds directly to tumor blood vessels to inhibit tumor growth and development. Tarvacin™ is a chimeric monoclonal antibody that binds to the phospholipid, phosphatidylserine. Tarvacin™ was initially discovered by researchers at the UT Southwestern who have worked closely with Peregrine to explore the potential activity and safety of Tarvacin™ as a treatment for cancer. Peregrine has a sponsored research agreement with researchers at UT Southwestern to study the use of Tarvacin™ and its parent antibody for the treatment of cancer and viral diseases. In addition, the researchers at UT Southwestern have also received a grant to study the use of APT agents for the treatment of viral infections and diseases. Peregrine is also collaborating with The Foundation Fighting Blindness to study APT constructs as well as Vascular Targeting Agents (VTAs) for the treatment of eye diseases.

Peregrine and its research collaborators have completed a number of pre- clinical animal experiments using Tarvacin™ to study the safety and efficacy of the compound. In pre-clinical studies, Tarvacin™ binds to tumor blood vessels and demonstrated significant anti-tumor activity in animal cancer models. Enhanced tumor effects were observed when Tarvacin™ was administered in conjunction with chemotherapy and radiation therapy. In addition, in data recently presented at the American Association of Cancer Research (AACR), 3G4, the parent antibody of Tarvacin™, was shown to reduce the growth of breast cancer tumors in animal models by 60% when given alone and by 93% when given in combination with the commonly used chemotherapy drug docetaxel. This data, in combination with other data presented during the year, has heightened the company's excitement and commitment to the Tarvacin™ program.

About Phosphatidylserine (PS)

PS is an aminophospholipid or anionic phospholipid. The main function of phospholipids is the formation of cellular membranes. In normal cells, anionic phospholipids are on the inside of the cellular membrane. Exposure of anionic phospholipids on the cell surface occurs during apoptosis (normal cell death), necrosis, cell injury, cell activation and malignant transformation. Factors in the tumor microenvironment cause a breakdown of asymmetry and exposure of anionic phospholipids on the cell surface of the blood vessel and malignant cells.

Anionic phospholipids are attractive as tumor blood vessel targets for several reasons: they are abundant; they are on the surface of the endothelial cells that line tumor vessels that are accessible to VTAs in the blood; they are present on a significant percentage of endothelial cells in diverse solid tumors, and they appear to be absent from vascular endothelium in all normal tissues.

Peregrine has developed an anti-phosphatidylserine (PS) monoclonal antibody named 3G4. When injected into tumor-bearing mice, 3G4 localizes specifically to tumor endothelium. In pre-clinical studies, 3G4 alone significantly inhibits tumor growth in a variety of rodent tumor models. Up to 50% regressions have been seen in syngeneic and human tumors, including human breast carcinomas.

Anti-PS antibodies may also have uses as anti-viral agents. Anti-PS drugs operate on a new principle in virology. When enveloping viruses egress from a host cell after replication, many capture some of the lipids of the host cell for use as their outer membrane. Lacking the natural mechanism for properly aligning the lipids, the outer membranes of these viruses have lipids that are inside-out. The anti-PS antibodies direct the immune responses to the inside- out components of the viral membrane, or envelope. These drugs could potentially be effective against numerous viruses that have similar outer membranes.

About Peregrine Pharmaceuticals, Inc.

Peregrine Pharmaceuticals is a biopharmaceutical company primarily engaged in the research, development, manufacture and commercialization of cancer therapeutics and diagnostics through a series of proprietary platform technologies. The company is primarily focused on discovering and developing products that affect blood vessels and blood flow in cancer and other diseases. Peregrine's vascular research programs fall under several different proprietary platforms including Anti-Phospholipid Therapy (APT), Vascular Targeting Agents (VTAs), Anti-Angiogenesis and Vasopermeation Enhancement Agents (VEAs). The company expects to enter its first APT compound, TarvacinT, into clinical trials for cancer therapy during calendar year 2004.

Peregrine's most clinically advanced therapeutic program is known as Tumor Necrosis Therapy (TNT) and targets dead or dying tumor cells that are common to the majority of different tumor types. The company is developing a radiolabeled TNT agent that it has trademarked as Cotara® for the treatment of cancer. Peregrine has completed enrollment in a Phase I Cotara® clinical trial for the treatment of colorectal carcinoma at Stanford University Medical Center and has received approval from the U.S. Food and Drug Administration ("FDA") to initiate a product registration clinical trial using Cotara® to treat brain cancer. In addition, a TNT based agent similar to Cotara® was developed under a licensing agreement in China and has been approved for the treatment of advanced lung cancer.

The company's wholly-owned subsidiary, Avid Bioservices, Inc. (http://www.avidbio.com), develops and manufactures monoclonal antibodies and recombinant proteins to support Phase I through Phase III clinical trials for biotechnology companies, including Peregrine.

Copies of Peregrine press releases, SEC filings, current price quotes and other valuable information for investors may be found at http://www.peregrineinc.com .

Safe Harbor Statement: This release may contain certain forward-looking statements that are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Except for historical information presented herein, matters discussed in this release contain certain forward- looking statements. The inclusion of forward-looking statements should not be regarded as a representation by us, or any other person, that the objectives or plans will be achieved. The words "may," "should," "plans," "believe," "anticipate," "estimate," "expect," their opposites and similar expressions are intended to identify forward-looking statements. We caution readers that such statements are not guarantees of future performance or events and are subject to a number of factors that may tend to influence the accuracy of the statements, including but not limited to, risk factors discussed in Peregrine's report on Form 10-K for the year ended April 30, 2004 and subsequent quarterly reports on Form 10-Q. Peregrine disclaims any obligation and does not undertake to update or revise the forward-looking statements discussed in this press release.

Peregrine Investor Relations
Frank Hawkins and Julie Marshall
Hawk Associates, Inc. (investor inquiries)
(800) 987-8256 or
info@hawkassociates.com

Edelman Financial (media inquiries)
(212) 704-4465 or
jacqueline.hayot@edelman.com

SOURCE Peregrine Pharmaceuticals, Inc.