



ASX AND MEDIA RELEASE

Peplin Completes Enrolment for its First Phase III AK Clinical Trial

EMERYVILLE, California and BRISBANE, Australia, 16 December 2008 Peplin, Inc. (ASX:PLI) today announced the completion of enrolment of its 250 patient pivotal Phase III US and Australian clinical trial in actinic (solar) keratosis (AK), a common pre-cancerous skin condition affecting between 40 and 60 percent of adult Australians and accounting for at least 5.8 million annual visits to the dermatologist in the U.S.

This Phase III trial (also known as REGION-I) aims to replicate the safety and efficacy demonstrated in earlier studies of Peplin's proprietary product, PEP005 (ingenol mebutate) Gel, for AK lesions on non-head treatment areas, which include the trunk and extremities. Peplin expects to announce the results of its REGION-I trial in the first half of 2009.

Peplin's Chief Executive Officer, Tom Wiggins, is extremely pleased with the progress of Peplin's lead product development program.

"The completion of enrolment for our first Phase III trial represents a significant milestone in what has been an exciting phase for Peplin. The enthusiasm for the trial and the speed of enrolment emphasizes the unsatisfied medical need which our product addresses. Based on the data we have generated to this point in earlier studies, we believe PEP005 Gel and its short course of therapy represents a significant advance in the treatment of this common skin condition, which if left untreated can progress to non-melanoma skin cancer. With no other product like this currently on the market, the potential for patients, as well as investors, is considerable."

REGION-I is a multi-center, randomized, double-blind, parallel group, vehicle-controlled clinical trial being conducted at Australian and US sites under a Special Protocol Assessment (SPA) with the US Food and Drug Administration (FDA). The SPA represents the FDA's agreement that the design, clinical endpoints and planned statistical analyses of the REGION-I protocol are adequate to form a basis for approval of a New Drug Application (NDA). The FDA's agreement on the SPA is binding, except in limited circumstances, such as the identification of a safety issue after the testing is initiated.

The primary efficacy endpoint for this clinical trial is the complete clearance rate of AK lesions within the assigned treatment area. The secondary efficacy endpoint will be the partial clearance rate of AK lesions within the treatment area. Peplin will evaluate efficacy on the 57th day after treatment.

PEPLIN, INC.

6475 Christie Avenue, Emeryville, CA 94608, USA
Tel: +1-510-653 9700 Fax: +1-510-653 9704

Level 2, Brisbane Portal, 1 Breakfast Creek Road, Newstead, QLD, 4006, Australia
Tel: +61-7-3250 1200 Fax: +61-7-3250 1299

REGION-I is the first of the planned Phase III trials for PEP005 Gel for AK. Pending supporting data from Peplin's recently enrolled PEP005-015, a dose-ranging Phase IIb clinical trial, which focuses on patients with AK lesions located on their head, and assuming a successful End-of-Phase II meeting with the FDA, Peplin plans to initiate a subsequent Phase III clinical trial for patients with AK lesions on the head in 2009.

Further information:

Tom Wiggans
Chief Executive Officer
Tel: +1-510-653 9700
tom.wiggans@peplin.com

Media:

Camilla Myers
Hill & Knowlton
Tel: 02-9286 1248
cmyers@hillandknowlton.com.au

ABOUT PEPLIN

Peplin is a development stage specialty pharmaceutical company focused on advancing and commercializing innovative medical dermatology products. Peplin is currently developing PEP005 (ingenol mebutate), which is the first in a new class of compounds and which is derived from the sap of *Euphorbia peplus*, or *E. peplus*, a rapidly growing, readily available plant commonly referred to as petty spurge or radium weed. *E. peplus* has a long history of traditional use for a variety of conditions, including the topical self-treatment of various skin disorders, including skin cancer and pre-cancerous skin lesions. Peplin's lead product candidate is a patient-applied topical gel containing ingenol mebutate, a compound the use of which Peplin has patented for the treatment of actinic (solar) keratosis, or AK. This product candidate is currently in Phase III clinical trials (trial known as REGION-I) and is referred to as PEP005 (ingenol mebutate) Gel.

ABOUT AK

Actinic keratoses (AK), also known as solar keratosis or sun spots, is generally considered the most common pre-cancerous skin condition. AK usually appears as small, rough, scaly areas on the face, lips, ears, back of hands, forearms, scalp or neck. If left untreated, AK lesions may progress to a form of skin cancer called squamous cell carcinoma, or SCC. The Lewin Group, Inc., estimates that the total direct costs for AK in the United States was \$1.2 billion in 2004, and in 2002 there were approximately 8.2 million office visits for the treatment of AK. The Lewin Group also estimated that there were 58 million people in the United States living with AK in 2004. According to a May 2006 issue of *The Journal of Family Practice*, in northern hemisphere populations, 11% to 25% of adults have at least one AK lesion, compared with 40% to 60% of adults in Australia, which has the highest prevalence of AK worldwide.

FORWARD LOOKING STATEMENTS

This press release contains "forward-looking statements" as defined under U.S. federal securities laws, including, but not limited to, Peplin's clinical development plan referred to herein. These forward-looking statements can be identified through the use of words such as "anticipates," "expects," "intends," "plans," "believes," "seeks," "estimates," "may," "will," and variations of these words or similar expressions. Forward looking statements are based on management's current, preliminary expectations and actual results could differ materially as a result of various risks and uncertainties, including, but not limited to, delays in the completion of clinical trials resulting from, among other things, ambiguous or negative interim results,

unforeseen safety issues, failure to conduct the clinical trials in accordance with regulatory requirements or clinical protocols, suspension or termination of a clinical trial by the FDA or other regulatory authorities, lack of adequate funding to continue a clinical trial and other important factors disclosed from time to time in Peplin's disclosures to the ASX. Forward-looking statements speak only as of the date they were made. No undue reliance should be placed on any forward-looking statements. Such information is subject to change, and we undertake no obligation to update such statements.