

ASX AND MEDIA RELEASE

Results of nodular basal cell carcinoma clinical trial

BRISBANE, Australia, 17 July 2006: Peplin Limited (ASX:PEP) announced today results from its Australian phase IIa clinical trial of its proprietary drug PEP005 Topical in nodular forms of basal cell carcinoma (nBCC). Basal cell carcinoma is the most common form of skin cancer.

In this trial PEP005 Topical demonstrated a favourable safety profile and was well tolerated. There were no drug related serious adverse events, the majority of local skin responses were graded mild or moderate and all resolved spontaneously.

Tumor clearance rates were dose dependent, the highest concentration of PEP005 Topical was the most effective. In the high concentration group two applications of PEP005 Topical (0.05%) histologically cleared 25% of nBCC tumours.

Managing Director & CEO Michael Aldridge said these results were consistent with Peplin's expectations of efficacy and served to further confirm the safety of the drug. The drug's apparent better efficacy seen in an earlier trial in superficial basal cell (sBCC) is consistent with the proposed mechanism of action of PEP005 Topical.

"We are pleased to again document the safety and tolerability of the drug, to see encouraging evidence of efficacy and a dose dependent response. We have now treated almost 180 patients and over 400 individual lesions or tumours in our Australian phase IIa trials.

"This body of data gives us confidence to explore the activity of PEP005 Topical for non-melanoma skin cancer at higher concentrations and expect to see better efficacy. We plan to conduct more advanced phase IIb clinical trials of PEP005 Topical for non-melanoma skin cancer in the US and Australia," he said.

Sydney dermatologist and a principal investigator, Dr Robert Rosen said Peplin should be very pleased with the results of this trial and the body of data emerging for this agent.

"The thicker and deeper structure of nodular basal cell carcinomas are more difficult to clear with topical agents. Accordingly this level of activity is consistent with the higher clearance rates we saw in the previous superficial BCC trial and what we see with other topical agents," he said.

In Peplin's phase IIa clinical trial in superficial BCC, reported in May 2006, just two applications of PEP005 Topical (0.05%) gel on two consecutive days cleared 71% of sBCC tumours.

Peplin will present the results of its phase IIa actinic (solar) keratosis trial (PEP005-001) at the American Academy of Dermatology summer conference in San Diego next week. The abstract of this presentation will be made available at www.peplin.com.

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A summary of all Peplin's Australian phase IIa studies is set out below

In three similarly structured 60 patient parallel group vehicle controlled phase IIa studies of PEP005 Topical for actinic keratosis, sBCC and nBCC Peplin has documented a large database of safety and efficacy. In the three phase IIa studies Peplin has treated nearly 180 patients and over 400 individual lesions or tumours of which more than 100 have been at 0.05% PEP005 Topical. The drug has been safe and well tolerated with local skin responses typically mild or moderate. Only 6% of local skin responses have been graded in the severe category and all resolved spontaneously.

In addition Peplin has seen an encouraging level of efficacy and a dose dependent response. The following table provides an abbreviated review of the best clearance rates seen in these studies. For a more comprehensive discussion of the data please refer to the original release.

Clearance rates of PEP005 Topical gel								
Concentration of active	Vehicle		0.0025% PEP005		0.01% PEP005		0.05% PEP005	
	N	%	N	%	N	%	N	%
PEP005-001 (actinic keratosis) ⁽¹⁾	60	32%	75	53%	75	25%	75	71%
PEP005-003 (superficial BCC) ⁽²⁾	6	0%	8	0%	7	14%	7	71%
PEP005-002 (nodular BCC) ⁽¹⁾	11	9%	14	0%	16	19%	16	25%

1. Arm A and Arm B combined

2. Arm A per protocol analysis

The following additional information is provided in accordance with the Code of Best Practice for Reporting by Life Science Companies.

Description of trial

The clinical trial (PEP005-002) was a phase IIa multi-centre, double-blind, randomised, vehicle controlled, parallel group comparison study to evaluate the safety of PEP005 Topical gel at 0.0025%, 0.01% and 0.05% concentration administered on two days to nodular basal cell carcinoma (nBCC) according to two schedules: day 1 and day 2 (treatment arm A) or day 1 and day 8 (treatment arm B) with a 12 week follow-up period. Secondary objectives were to determine a recommended treatment regimen and evaluate the efficacy of PEP005 Topical.

The study was initiated in March 2005.

Description of trial subjects

There were 58 subjects randomised to one of the two treatment arms and one of four treatment groups (0.0025%, 0.01% or 0.05% active ingredient or vehicle gel). All 58 subjects were treated. Of these 29 were randomised to treatment arm A (day 1 / day 2) and 29 to treatment arm B (day 1 / day 8). One patient in arm B (vehicle) was withdrawn for a non-drug related reason, and while evaluated clinically at end of study was not evaluated histologically.

Study subjects were of either gender and at least 18 years old (excluding women of child bearing potential) with a biopsy confirmed nBCC tumour located on the arm, shoulder, chest, face, neck, abdomen, leg or back. Median tumour diameter was 7 millimetres, with range 4-15 millimetres. All subjects were Caucasian and the majority of subjects had Fitzpatrick-Pathak skin types that burn easily and tan rarely or minimally.

Treatment method

Study drug in the amount of 70 or 100 micro litres (depending on tumour size) was applied to the nBCC tumour once daily on the two treatment days and subjects were then followed for 12 weeks.

Results

The preliminary results relating to the objectives of the study are presented below.

Safety: The primary objective of the trial was to evaluate safety. PEP005 Topical was safe and well tolerated. There were no drug related serious adverse events reported. All local skin responses had resolved by end of study.

Local skin responses over and above a pre-treatment base line were assessed by the investigator and graded as mild, moderate or severe. The most frequently reported local skin responses were erythema, scabbing/crusting and flaking/scaling/dryness and the majority were mild or moderate. All local skin responses were expected and had been predicted based on the drug's mechanism of action. All but two subjects (both 0.05%) completed the two day course of therapy. Three patients in arm A (0.05%) and one patient in arm A (0.01%) had the second application delayed to day 8. There was a dose response with higher concentrations resulting in more prevalent local skin responses.

Local skin responses typically resolved within four weeks.

The two secondary objectives of the trial were:

1. **The determination of a recommended treatment regimen.** Clearance rates were not discernibly different in treatment arm A (day 1,2) as compared to treatment arm B (day 1,8). Accordingly the data in the following analysis has been combined.

2. **Evaluation of the efficacy of PEP005 Topical.** The primary evaluation of efficacy is the histological clearance rate as confirmed by complete excision of the tumour site at the end of the study and histological confirmation of absence of tumour tissue. There was a dose related response to drug. The most effective concentration of PEP005 Topical in both arms was 0.05% the highest concentration. 25% of tumours in the 0.05% PEP005 Topical group (n=16) were histologically cleared versus 9% in the vehicle group (n=11). The difference between active and vehicle was not assessed as statistically significant.

A secondary evaluation of efficacy was clinical assessment of tumour clearance. Again there was a dose related response to drug. The most effective concentration of PEP005 Topical in both arms was the highest concentration, 0.05% PEP005 Topical. 25% of tumours in the 0.05% PEP005 Topical group (n=16) were clinically cleared versus 8% in the vehicle group (n=12). The difference between active and vehicle was not assessed as statistically significant.

Clearance rates of PEP005 Topical gel								
Concentration of active	Vehicle		0.0025% PEP005		0.01% PEP005		0.05% PEP005	
	N	%	N	%	N	%	N	%
Combined Arm A + Arm B								
Histological clearance	N=11		N=14		N=16		N=16	
	1	9%	0	0%	3	19%	4	25%
Clinical clearance	N=12		N=14		N=16		N=16	
	1	8%	0	0%	3	19%	4	25%

Implications

The results of this trial confirm Peplin's expectations for PEP005 Topical's safety. In now three completed Australian phase IIa studies Peplin has treated nearly 180 patients and over 400 individual lesions or tumours of which more than 100 have been at 0.05% PEP005 Topical. Peplin believes these data are early evidence of an emerging favourable safety profile for PEP005 Topical.

The study showed a dose response. Higher doses of PEP005 Topical were more efficacious than lower doses. This has been a consistent observation in each of Peplin's phase IIa trials. As a consequence Peplin plans to explore higher doses of the drug in further studies and would expect to observe better clearance rates. Higher doses of drug may also allow Peplin to differentiate this skin cancer product (PEP005 Topical for NMSC) from its actinic keratosis product (PEP005 Topical for AK).

BCC is malignant tissue and requires the careful intervention of a trained clinician. Accordingly Peplin intends to develop PEP005 Topical for NMSC as a clinician (or trained healthcare professional) applied prescription therapeutic product. Conversely actinic keratosis is a pre-cancerous lesion and Peplin expects to develop PEP005 Topical for AK as a patient applied convenient take home prescription medication.

The observed favourable safety profile of two days treatment at 0.05%, the highest concentration used in this study, gives Peplin confidence that it could explore the activity of PEP005 Topical for NMSC in a higher concentration while it continues to be applied in the clinician's office.

Peplin plans to conduct more advanced phase IIb clinical trials of PEP005 Topical for NMSC in the US and Australia. Peplin expects to commence these studies in the fourth calendar quarter of 2006. Peplin intends to conduct these trials under its presently open IND application with FDA.

ABOUT PEPLIN

Peplin is focused on the development and commercialisation of prescription human therapeutic products for the treatment of cancer. Its lead compound is PEP005, the first in a new class of investigational agents. Peplin's lead product is PEP005 Topical, which is being studied in clinical trials for the treatment of actinic keratosis (AK) (a pre-cancerous lesion) and non-melanoma skin cancer (NMSC). PEP005 Topical works by a powerful mode of action, directly killing most cancer cells and then recruiting and activating the local immune system to clean-up these dead cancer cells and kill any remaining cancer cells. PEP005 Topical is potentially a rapidly acting and cosmetically attractive non-surgical topical treatment for AK and NMSC. Peplin's product development activities are supported by the Australian Federal Government under its Pharmaceuticals Partnerships Program.

Peplin's earlier stage pipeline is targeted at leukemia (a blood borne cancer) using its lead compound PEP005 in an intravenous formulation (PEP005 IV) and bladder cancer using an intracavitary or intravesical formulation (PEP005 IC). PEP005 has demonstrated selective and potent anti-leukemia activity in pre-clinical disease models. PEP005 induces apoptosis in leukemia cells via the activation of PKC delta. Peplin holds global proprietary rights for PEP005 Topical and other oncology applications of PEP005. Its research portfolio of EPUFA compounds opens additional potential opportunities in cancer and pain.

ABOUT BASAL CELL CARCINOMA

Basal cell carcinoma is a cancer which develops from cells in the basal layer of the skin. It is the most common form of skin cancer accounting for ~80% of all skin cancers. Other forms of skin cancer comprise squamous cell carcinoma (~16% of cases) and melanoma (~4% of cases). BCCs typically develop on sun exposed parts of the body and are more prevalent in older Caucasians with a history of sun exposure.

In terms of incidence BCCs are the most common type of cancer found in humans. Based on a 2005 study by The Lewin Group, Inc. for The Society for Investigative Dermatology and The American Academy of Dermatology Association, there are more than one million cases of basal cell carcinoma each year in the US.

The worldwide prevalence of skin cancer is highest in Australia where it accounts for 80% of all new cancer cases diagnosed here each year. According to the Cancer Council of Australia 256,000 Australians were treated for BCC in 2002. Together, basal cell and squamous cell carcinoma are the most costly cancers in Australia, accounting for \$232 million in treatment costs per year.