

ASX AND MEDIA RELEASE

Peplin announces positive results of phase IIa skin cancer trial

- **Confirmed clearance of 71% of skin cancers**
- **PEP005 Topical demonstrates favourable safety profile**

BRISBANE, Australia, 1 May 2006: Peplin Limited (ASX:PEP) today announced positive results from its Australian phase IIa clinical trial of its proprietary drug PEP005 Topical in superficial forms of basal cell carcinoma (sBCC) the most common form of skin cancer.

The phase IIa clinical trial achieved its objectives. Just two applications of PEP005 Topical (0.05%) gel on two consecutive days cleared 71% of sBCC tumours. This result was statistically significant ($p=0.02$). In addition PEP005 Topical gel had a favourable safety profile and was well tolerated. The majority of local skin responses reported were graded mild or moderate.

Managing Director & CEO Michael Aldridge said these positive results were a significant milestone for the company and of great interest to people with skin cancers in Australia and worldwide.

“The results of this Australian clinical trial exceeded our expectations,” Mr Aldridge said.

“While we achieved the primary purpose of the trial which was to establish the safety of the drug in treating non-melanoma skin cancers, we have shown that two consecutive days of treatment with PEP005 Topical gel can clear nearly three quarters of basal cell carcinomas, the most common form of skin cancer.

“Our next steps will be to undertake larger trials in Australia and the US starting later this year in order to make application to obtain regulatory approval to market the product as quickly as possible.”

Sydney dermatologist and a principal investigator, Dr Robert Rosen said this drug appears to be safe which was the primary purpose of the study and even at this early stage appeared effective in clearing superficial basal cell carcinomas.

“It is exciting that we are looking for answers for a condition that plagues Australia in particular and we seem to be on the right track at an early stage,” he said.

Brisbane dermatologist and also a principal investigator, Dr Greg Siller said these results were better than he anticipated for a drug so early in its clinical development.

“It appears to be as effective as other drugs which are already available but with only two applications,” Dr Siller said.

“It is a wonderful opportunity for Australian researchers to pioneer a new anti-cancer treatment.”

The sBCC phase IIa clinical trial was a double-blind, vehicle controlled, randomised, parallel group study at eight centres across Australia. PEP005 Topical gel in one of three concentrations or vehicle gel was applied to sBCC tumours on either day 1 and day 2 or day 1 and day 8; subjects were followed for 12 weeks; the tumour site was then completely excised and examined histologically for presence or absence of tumour tissue.

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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 (PEP005-003) 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 to superficial basal cell carcinoma (sBCC) 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 60 subjects enrolled and randomised to one of two treatment arms and one of four treatment groups (0.0025%, 0.01% or 0.05% active ingredient or vehicle gel). No subjects withdrew from the study; 60 subjects were treated and followed-up. Of these 30 were randomised to treatment arm A (day 1 / day 2) and 30 to treatment arm B (day 1 / day 8).

Study subjects were of either gender and at least 18 years old (excluding women of child bearing potential) with a biopsy confirmed sBCC tumour located on the arm, shoulder, chest, face, neck, leg, or back. Median tumour diameter was 9 millimetres, with range 4-15 millimetres. All subjects were Caucasian and the majority of subjects in the study 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 sBCC tumour once daily on the two treatment days and subjects were then followed for 12 weeks.

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 shown to be safe. There were no drug related (or non drug related) serious adverse events reported. All but two subjects (one in 0.05% one in 0.01%) completed their two day course of therapy. All local skin responses 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. There was a dose response with higher concentrations resulting in more prevalent local skin responses.

Local skin responses typically resolved within four weeks.

Secondary objectives of the trial were:

1. **The determination of a recommended treatment regimen.** Clearance rates were better in treatment arm A (day 1,2) as compared to treatment arm B (day

1,8). Accordingly Peplin will primarily pursue consecutive day treatment in future studies.

- 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 was the highest concentration, 0.05% PEP005 Topical in arm A (Day 1,2). 71% of tumours in the 0.05% PEP005 Topical arm A group (per protocol analysis) (n=7) were histologically cleared versus 0% in the vehicle group (n=6). This difference was statistically significant with p value of 0.02.

A secondary evaluation of efficacy was clinical assessment of tumour clearance. A very clear picture of dose response is seen in both histological clearance and clinical assessment of complete clearance particularly when Arm A and Arm B are combined.

Comparison of PEP005 Topical to vehicle gel							
Concentration of active	Vehicle	0.0025% PEP005		0.01% PEP005		0.05% PEP005	
		%	p value	%	p value	%	p value
PER PROTOCOL							
Arm A (Day 1, day 2)	N=6	N=8		N=7		N=7	
Number histologically clear	0	0	NS	1	NS	5	0.02
Percentage of total	0%	0%		14%		71%	
Arm B (Day 1, day 8)	N=6	N=8		N=9		N=9	
Number histologically clear	1	1	NS	1	NS	3	NS
Percentage of total	17%	13%		11%		33%	
INTENT TO TREAT							
Arm A (Day 1, day 2)	N=6	N=8		N=8		N=8	
Number histologically clear	0	0	NS	2	NS	5	0.03
Percentage of total	0%	0%		25%		63%	
Arm B (Day 1, day 8)	N=6	N=8		N=8		N=8	
Number histologically clear	1	1	NS	0	NS	3	NS
Percentage of total	17%	13%		0%		38%	
Combining Arm A + Arm B	N=12	N=16		N=16		N=16	
Histologically cleared	8%	6%		13%		50%	
Complete clinical clearance	8%	13%		25%		38%	

NS=not statistically significant

Implications

The results of this trial confirmed Peplin's expectations for PEP005 Topical's safety but exceeded expectations for the drug's efficacy based on an assessment of the results of its pre-clinical studies.

Importantly, the phase IIa trial results highlight the potential for PEP005 Topical as a new elegant, safe and well tolerated topical medication which completely clears superficial basal cell carcinomas following just two applications of drug on two consecutive days. Peplin believes the short treatment period will be an important differentiating factor in the potentially large and growing market for the non-surgical treatment of non-melanoma skin cancer.

The study showed a clear dose response. Higher doses of PEP005 Topical were more efficacious than lower doses. As a consequence Peplin plans to explore higher doses of the drug in further studies and would expect to observe even 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).

sBCC 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 clinical trials of PEP005 Topical for NMSC in the US and Australia starting in 2006 in larger patient populations to progress the product to market as quickly as possible. 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 intra-cavitary 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.