



# Biotech Daily

## Marc Sinatra's Bioguide

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### BIG PHARMA GETS IT WRONG - PEPLIN A FIVE-BANGER

**Overview:** I gave up following Peplin back in 2004, when Allergan handed back PEP005 after licencing the non-melanoma skin cancer drug from them in 2002.

The willingness of investor of note, MPM Capital, to lead a \$40 million dollar capital raising for Peplin in 2006 should have been the signal for me to take another look at them, but it wasn't until August last year, when they raised \$US24 million in very difficult conditions that they again caught my eye. The positive signal was reinforced by the fact that arguably Australia's leading life science investment firm, GBS Venture Partners, led the raising.

Could big pharma Allergan have got it wrong?

**Financials:** Market cap: \$181 million; cash: \$33.8m; last quarter cash burn: \$6.1m.

**Directors:** Executive chairman and chief executive officer, Thomas Wiggins; president and chief medical officer, Dr Eugene Bauer; non-executive directors, Dr Joshua Funder, Cherrell Hirst, Dr Gary Pace, Michael Spooner and Jim Scopa. Peplin's board is excellent - members Wiggins, Bauer and Scopa, particularly so. Chairman and CEO Tom Wiggins looks purpose-built for the job.

**Products in Development:** Peplin is developing various topical formulations of PEP005 (ingenol mebutate), a plant-derived compound thought to cause local necrosis and activation of the immune system, for applications including actinic keratoses (AK), basal cell carcinoma (BCC) and squamous cell carcinoma (SCC).

- 1) AK (non-head treatment sites): Treatment consists of a single application of PEP005 (0.05%) to AK's for two consecutive days. A phase IIb study found a statistically significant 44% complete clearance rate of AKs when applied to contiguous areas of skin containing 4-8 AKs in 55 patients. Enrolment in a phase III trial is complete with results due in the current quarter.
- 2) AK (head treatment sites): Treatment is likely to consist of a single application of PEP005 (0.015%) for three consecutive days. With this treatment regimen, a phase IIb study found a statistically significant 50 percent complete clearance rate of AKs. A phase III trial is due to start in the current quarter.
- 3) Superficial BCC: In a phase IIa study, PEP005 (0.05%) cleared a statistically significant 71 percent of cancers when used as in 1, above. A second phase IIa study to determine the maximum tolerated dose in BCC patients is continuing.
- 4) SCC in situ: In a pilot study, PEP005 (0.05%) cleared 36 percent and 64 percent cancers on histological and clinical basis, respectively, when used as in 1 above.
- 5) Cutaneous Warts: PEP005 is currently in preclinical trials for this indication.

**Significant Product Markets:** Seventy-five percent of Americans over 80 years of age have at least one AK and, according to the US National Ambulatory Medical Care Survey database (average 2001-'05), AKs result in 5.6 million doctor office visits in the US annually. It is believed that in 2008 there were more than one million diagnoses of BCC and 250,000 of SCC in the US.

Treatments for AK, BCC and SCC vary, ranging from surgical excision and cryotherapy to topical treatments.

There are several topical treatments. From an application point of view, Efudex, a 5-fluorouracil cream, is the least burdensome to use. It requires daily application for four weeks. All of the available drugs come with uncomfortable and unsightly side effects that are compounded by the treatment duration.

Aldara (imiquimod 5%), which is thought to activate the immune system, is the highest selling topical treatment generating revenues of \$US288 million in 2007. Efudex is thought to generate revenues of \$US75 million a year, while Solaraze (diclofenac sodium 3%) generated \$US61.7 million in 2008.

Complete AK clearance rates for marketed drugs range from about 30-50 percent.

**Opinion:** Today's Peplin is dramatically different to that of years past. It has a clear dermatological focus and much better understanding of its products.

PEP005 (0.05% and 0.015%) with two and three day treatment times is much easier to use than present drugs, while appearing to provide equivalent clearance rates. In addition, while side effects last longer than the treatment, they are only present for a fraction of the time compared to those produced by current drugs.

The superficial BCC and SCC in situ indications are not as clear cut. Although the data is not available for BCC, almost half the SCCs clinically cleared by PEP005 were still present histologically. The current phase IIa maximum tolerated dose study in BCC should determine if higher doses of PEP005 can be used to treat the cancers and provide further insight into likely histologic clearance rates.

Peplin's strategy is to licence PEP005 in Europe and the rest of the world, while taking it to market on its own in the US. This plan appears to rely heavily on a degree of market pull for the product in the US. If this market pull doesn't eventuate, Peplin will need to do a licencing deal quickly. I believe that PEP005 will find that market pull and there is little question that Peplin's chairman and CEO, Tom Wiggins, will be able to take full advantage of it. As I wrote above, he looks tailor-made for the job.

Allergan seems to have got it wrong, while GBS Ventures appears to have found another solid investment, like Chemgenex, among Australia's small cap biotechnology companies.

Based on discounted cash flows, I have arrived at a value of \$3.02 per Peplin share. Peplin closed down half a cent or 0.83 percent at 59.5 cents.