

**In this edition...**

Peplin has again presented more clinical data to support the commercialisation of PEP005, this time suggesting a suitable dose for application of PEP005 to sections of skin on the face and scalp. Peplin continues to impress with its single-mindedness in driving PEP005 to the market.

Although the bigger biotech companies have tended to dominate investor interest in this sector, there is value to be found in amongst the micro-cap biotechs. We suggest three stocks that represent good value at current prices. We also update readers on progress and developments at Cytopia, QRxPharma and Patrys.

**The editors**

**Companies covered: CGS, CYT, HTX, NDL, PAB, PEP, QRX**

	Bioshares Portfolio
Year 1 (May '01 - May '02)	21.2%
Year 2 (May '02 - May '03)	-9.4%
Year 3 (May '03 - May '04)	70.0%
Year 4 (May '04 - May '05)	-16.3%
Year 5 (May '05 - May '06)	77.8%
Year 6 (May '06 - May '07)	17.3%
Year 7 (from 4 May '07)	-14.0%
<b>Cumulative Gain</b>	<b>181%</b>
<b>Av Annual Gain (6 yrs)</b>	<b>26.8%</b>

*Bioshares* is published by Blake Industry & Market Analysis Pty Ltd. The company also provides market and company analysis of the Australian pharmaceutical and biotech industries for local and international funds management institutions, venture capital funds and other related industry groups. For further details contact David Blake (see details below).

Blake Industry & Market Analysis Pty Ltd  
ACN 085 334 292  
PO Box 193  
Richmond Vic 3121  
AFS Licence  
No. 258032

Enquiries for *Bioshares*  
Ph: (03) 9326 5382  
Fax: (03) 9671 3633  
Email: info@bioshares.com.au

**David Blake**  
Ph: (03) 9326 5382  
Email: blake@bioshares.com.au

**Mark Pachacz**  
Ph: (03) 9671 3222  
Email: pachacz@bioshares.com.au

Individual Subscriptions (48 issues/year)  
**\$320** (Inc.GST)  
Edition Number 245 (14 December 2007)  
ISSN 1443-850X

Copyright 2007 Blake Industry and Market Analysis Pty Ltd. ALL RIGHTS RESERVED.  
Secondary electronic transmission, photocopying, reproduction or quotation is strictly prohibited without written consent of the publisher.

# Bioshares

14 December 2007  
Edition 245

*Delivering independent investment research to investors on Australian biotech, pharma and healthcare companies.*

*Extract from Bioshares*

## **Patrys – Commercialising Natural Human Antibodies**

Patrys (PAB: 50 cents) listed on the ASX on July 13, 2007, raising \$25 million off an IPO price of 40 cents per share.

Patrys is an antibody therapeutics company with a number of points of difference with many other antibody firms. Patrys is a developer of natural human antibodies. Unlike 'humanised' antibodies derived typically from mouse antibodies or 'fully human' antibodies derived from a transgenic mouse expression systems, Patrys' natural human antibodies are far less likely to generate immune responses that might nullify the modulating benefit of the therapeutic antibody. This is because of residual mouse proteins or decorative sugar structures that originated with the mouse antibody or through the transgenic mouse or other non-human expression systems and continue to be marked as foreign matter warranting attention and removal by the human immune system.

An even more attractive feature is that these antibodies are not subject to many of the technology licensing obligations that beset many developers of monoclonal antibodies. Obligations exist for the accessing of proprietary methodologies to discover antibodies, for example phage display, and for accessing methods to humanise (engineer) and optimise antibodies.

The products that Patrys can produce therefore offer the benefits of reduced or negligible immunogenicity and a reduced royalty stack, of which the latter can make or break the investment viability of antibody products.

*Patrys claims that its two lead antibodies react with more than 90% of tumours sampled from 400 patients covering ten different tumour types*

There is a third aspect to the Patrys technology that underscores its investment relevance. This is the potential therapeutic advantage that stems from the derivation of Patrys' antibodies, which are derived in the human body as natural responses to a molecular target that is implicated in a disease. Human antibodies discovered as the natural response can theoretically be much more (tissue) specific to antibodies generated by alternative approaches that are screened against molecular targets with varying degrees of affinity and specificity. Patrys claims that its two lead antibodies react with more than 90% of tumours sampled from 400 patients covering ten different tumour types. More importantly, the company has screened the antibodies against healthy tissue, with no binding observed

*Cont'd over*

### Progress since listing

Selected assets and know-how from two firms, **Oncomab GmbH** (Germany) and **Acceptys Inc** (USA), have been transferred to Patrys, which was incorporated as an Australian company on December 8, 2006. Oncomab was founded in 2001, based on human antibodies discovered at the **University of Wurzburg**. Acceptys was founded in 2002 to advance similar technology developed at **Colombia University**. (Acceptys continues to develop an infectious diseases antibody program, with Patrys holding a fully diluted 28% stake in Acceptys.)

The most advanced products Patrys is developing under its own direction and management are PAT-LM1 for the treatment of lung cancer and PAT-SM6 for the treatment of pancreatic cancer. With a funds from the IPO, the company has been able to step up its manufacturing program, which is necessary from a proof-of-capability point of view but also to build supplies for a clinical programs that are expected to commence towards the end of 2008. Historically, human antibodies that have been produced from human hybridomas have struggled to overcome manufacturing performance challenges relating to stability, yield and scale-up. However, the company looks to be on track to overcome these issues.

The company's third product under development is PAT-CM1, for the treatment of colon cancer, which continues in pre-clinical development. PAT-SM6 has recently been evaluated as a potential treatment for melanoma, and has proved promising in early tests with melanoma cells.

Patrys has also developed pharmacokinetic and immunogenicity assays to support animal and human testing of its lead products. This is an important and necessary step towards the company's objective of filing INDs in support of its lead candidates.

### Partnering

Patrys has several collaborations and partnerships underway with other pharmaceutical firms, including Takeda, AstraZeneca (PAT-SC1 Gastric) and Debiopharm (PAT-PA1 Pancreas). Takeda now has selected five antibodies for evaluation (PAT-NM2, PAT-PM2, PAT-BA1, PAT-BA3, PAT-BA4). While these partnered programs offer the potential for Patrys to earn success fees and royalty payments, the company is heavily focussed on advancing the development of its internally managed products to points at which significant value is created.

### Milestones to monitor

- Q4 2007 Commence large scale production of PAT-LM1 for clinical program
- Q1 2008 Pre-IND meetings with FDA for PAT-LM1 and PAT-SM6
- Q1 2008 Commence large scale production of PAT-LSM6 for clinical program
- H2 2008 IND filings for PAT-LM1 and PAT-SM6
- Late 2008 - Commence clinical programs

### Summary

Patrys is a well-managed, high quality operation that has the foundations now in place to build an internationally recognised and competitive position in the antibody drug space. The company has the capacity to develop a staged pipeline of assets, with which it can mitigate individual product risk, but also exploit its ever-increasing knowledge concerning natural human antibody manufacturing, and clinical and regulatory development. Patrys is capitalised at \$78 million.

*Bioshares* recommendation: **Speculative Buy Class A**

Bioshares

**How Bioshares Rates Stocks**

For the purpose of valuation, *Bioshares* divides biotech stocks into two categories. The first group are stocks with existing positive cash flows or close to producing positive cash flows. The second group are stocks without near term positive cash flows, history of losses, or at early stages of commercialisation. In this second group, which are essentially speculative propositions, *Bioshares* grades them according to relative risk within that group, to better reflect the very large spread of risk within those stocks.

**Group A**

Stocks with existing positive cash flows or close to producing positive cash flows.

- Buy** CMP is 20% < Fair Value
- Accumulate** CMP is 10% < Fair Value
- Hold** Value = CMP
- Lighten** CMP is 10% > Fair Value
- Sell** CMP is 20% > Fair Value  
(CMP–Current Market Price)

**Group B**

Stocks without near term positive cash flows, history of losses, or at early stages commercialisation.

**Speculative Buy – Class A**

These stocks will have more than one technology, product or investment in development, with perhaps those same technologies offering multiple opportunities. These features, coupled to the presence of alliances, partnerships and scientific advisory boards, indicate the stock is relative less risky than other biotech stocks.

**Speculative Buy – Class B**

These stocks may have more than one product or opportunity, and may even be close to market. However, they are likely to be lacking in several key areas. For example, their cash position is weak, or management or board may need strengthening.

**Speculative Buy – Class C**

These stocks generally have one product in development and lack many external validation features.

**Speculative Hold – Class A or B or C**

**Sell**

**Corporate Subscribers:** Phylogica, Pharmaxis, NeuroDiscovery, Biotech Capital, Cygenics, Cytopia, Biodiem, Arana Therapeutics, Starpharma Holdings, Cogstate, Xceed Biotechnology, Incitive, Optiscan Imaging, Bionomics, ChemGenex Pharmaceuticals, Medical Therapies, Circadian Technologies, Biota Holdings, Stem Cell Sciences, Halcygen Pharmaceuticals, Peplin, BioMD, Impedimed, QRxPharma

**Disclaimer:**

Information contained in this newsletter is not a complete analysis of every material fact respecting any company, industry or security. The opinions and estimates herein expressed represent the current judgement of the publisher and are subject to change. Blake Industry and Market Analysis Pty Ltd (BIMA) and any of their associates, officers or staff may have interests in securities referred to herein (Corporations Law s.849). Details contained herein have been prepared for general circulation and do not have regard to any person's or company's investment objectives, financial situation and particular needs. Accordingly, no recipients should rely on any recommendation (whether express or implied) contained in this document without consulting their investment adviser (Corporations Law s.851). The persons involved in or responsible for the preparation and publication of this report believe the information herein is accurate but no warranty of accuracy is given and persons seeking to rely on information provided herein should make their own independent enquiries. Details contained herein have been issued on the basis they are only for the particular person or company to whom they have been provided by Blake Industry and Market Analysis Pty Ltd. The Directors and/or associates declare interests in the following ASX Healthcare and Biotechnology sector securities: AAH, ACL, ACR, BLS, BOS, BTA, CGS, CYT, CUV, CXS, HXL, MBP, PAB, PLI, PGL, PXS, SHC, SPL, TIS,UBI. These interests can change at any time and are not additional recommendations. Holdings in stocks valued at less than \$100 are not disclosed.

**Subscription Rates (inc. GST)**

48 issues per year (electronic distribution): **\$320**

For multiple email distributions within the same business cost centre, our pricing structure is as follows:	\$550	2-3 email addresses
	\$750	4-5 email addresses
	\$950	6-10 email addresses

To subscribe, post/fax this subscription form to:

**Bioshares**  
**PO Box 193 Richmond VIC 3121**  
**Fax: 61 3 9671 3633**

I enclose a cheque for \$ \_\_\_\_\_ made payable to **Blake Industry & Market Analysis Pty Ltd**, or

Please charge my credit card \$ \_\_\_\_\_ MasterCard  Visa

Card Number

Signature \_\_\_\_\_ Expiry date \_\_\_\_\_

**Subscriber details**

Name \_\_\_\_\_

Organisation \_\_\_\_\_

Ph ( ) \_\_\_\_\_

Emails \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_