

**In this edition...**

Peptech is set to become a financially well endowed company following GSK's \$575 million bid for Domantis. Peptech stands to receive \$170 million from its investment in Domantis. This is a welcome reward for Peptech investors and a huge flip for the local biotech sector. Peptech is set to become known as the biotech that creates cash value for investors.

Elsewhere, we examine Cygenics' plans to focus on its cord blood collection and storage business, and we update readers on progress at Biolayer. On the M&A front, we have also been able to include a highly relevant survey on the attitudes of biotech CEOs towards the issue of M&A.

**The editors**

**Companies covered: BLS, CYN, PTD**

	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 (from 5 May '06)	-0.9%
<b>Cumulative Gain</b>	<b>176%</b>
<b>Average Annual Gain</b>	<b>23.7%</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).

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Individual Subscriptions (48 issues/year)  
**\$320** (Inc.GST)  
Edition Number 196 (8 December 2006)  
ISSN 1443-850X

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# Bioshares

8 December 2006  
Edition 196

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

## Peptech Makes 5 Fold Return on Domantis Investment

Late on Friday, Peptech (PTD: \$1.30) announced that **GlaxoSmithKline** had agreed to purchase **Domantis**, a company in which Peptech holds a 31% stake (fully diluted) for GBP230 million (US\$453 million, A\$575 million). In the 1990's Peptech provided early capital to fund **Cambridge Antibody Technology**, which was acquired by **AstraZeneca** this year for US\$1.3 billion. Unfortunately for shareholders, Peptech sold out early and failed to enjoy the final upside. This time Peptech's net proceeds are estimated to be \$170 million.

Peptech first invested \$7.1 million in April 2001. To date the total funds invested, including committed funds, amount to \$40.2 million. However, the actual funds that have been invested amount to an estimated \$32.5 million. On a net basis, Peptech's return on actual funds invested is 5.2 times, as measured on a multiple basis. In everyday investment terms, this is called a '5 bagger'. All other factors being held equal, we expect that Peptech's share price will move rapidly to trade over \$2.00, the gain being accounted for by the after-tax impact of the net benefit of the realisation of Peptech's investment in Domantis.

**Analysis**

This proposed acquisition reinforces the view, once again, that new medical technologies with clear points of (potential) clinical difference, that may not have yet reached the clinic but are supported by comprehensive patent estates, can prove to be very attractive acquisition targets to Big Pharma. The 400% return on Peptech's investment over a five and a half year period is an example of why biotech investing is attractive and can be very worthwhile.

*Cont'd on page 3*

**Peptech's Proforma Balance Sheet**

Current Market Price	\$1.30	Exch. rate assumption: AUD/GBP 0.400
Num. Shares (M)	164.07716	

	At 30 Sept. 2006 (\$M)	per share	Est. impact of Domantis sale (unaudited) (\$M)	per share	Pro forma balance Sheet (unaudited) (\$M)	per share
Cash	\$40.70	\$0.25	\$152.50	\$0.93	\$193.20	\$1.18
Domantis	\$40.20	\$0.25	-\$40.20	-\$0.25	-	
Other Assets	\$19.30	\$0.12	\$17.80	\$0.11	\$37.10	\$0.23
Total Assets	\$100.20	\$0.61	-\$0.81	\$0.00	\$230.30	\$1.40
Liabilities	\$14.30	\$0.09	-\$8.10	-\$0.05	\$6.20	\$0.04
Equity	\$85.90	\$0.52	\$138.20	\$0.84	\$224.10	\$1.37
Escrowed payment			\$17.80	\$0.11		
Net Total Domantis Impact			\$170.30	\$1.04		
Net of tax impact @30%				\$0.73		

## ***Cygenics - Looking to Consolidate the Asia & Asia Pacific Cord Blood Storage Market***

Cygenics' (CYN: 30 cents) original ambition when the company listed in May 2004 was to create a vertically integrated stem cell business. However, the difficulty involved and the limited funds with which to achieve that ambition has directed the company to focus on its core competency, that of cord blood banking. As with any emerging business, finding out where a company's strengths lie and identifying accessible market opportunities may take time. This is particularly true where the market landscape is experiencing considerable change and evolution such as is occurring in area of cell and stem cell therapeutics.

In the vertically integrated model, Cygenics' business plan was to offer a cord blood banking service, where stem cells could be acquired, stored and accessed for later use if required. The company acquired a life science products portfolio that allowed expansion of stem cells in the laboratory. Cygenics also had two stem cell therapeutic programs that were primed to move into the clinical trial setting.

The company raised \$18 million at its May 2004 listing to fund its commercial expansion activities. At the end of September 2006, those funds have been reduced to \$3.9 million, and it is perhaps this capital constraint that has forced the company to focus on its revenue generating businesses that have nearer-term profitability outcomes.

### **A pure-play cord blood storage business**

Cygenics' stem cell therapeutic programs have now been halted. The company's technology assets, including the stem cell expansion technology, will be out-licensed or sold. This leaves Cygenics now as a pure-play cord blood storage business that will focus on the Asia and Asia-Pacific regions.

Cord blood storage is a high quality revenue generating business that has several attractive qualities. Parents of newborns can elect to have their child's cord blood cryogenically stored with right to access that blood, in particular the stem cells, for the treatment any future disorders or diseases. At present, cord blood stem cells are used routinely in the treatment of leukemia and other blood based diseases. However in the future, as stem cell therapy progresses, the application of stem cells to the treatment of disease, including cord blood stem cells, is anticipated to expand.

Currently, countries such as Australia are building public blood banks using cord blood that makes these stem cells available for the treatment for many types of leukemia. However, it is the unknown future applications of patient specific cord blood stem cells that forms the basis of the private cord blood cell storage business. The cost of having a child's cord blood stored is about \$1300 up front and in the order of \$200 a year thereafter.

Currently, Cygenics has operational cord blood storage businesses in Singapore (started in 2002), in Hong Kong (since 2005), in Australia (through the 51% acquisition of **BioCell Pty Ltd** in

November 2005) and is operating in Indonesia although the cord blood is stored in Singapore. Cygenics is planning entries into two major markets, India and China, which if successful, represents substantial blue sky for this stock.

### **India (pop. 1.1 billion) cord blood storage business - Due to start in Q2 2007**

Cygenics is currently building a cord blood storage facility in India, through a joint venture (JV) arrangement with **Strassenburg Pharmaceuticals**, an Indian pharmaceutical company. Cygenics owns 85% of the JV. The facility is expected to cost approximately \$1 million to build and should be operational by mid 2007.

Through the JV arrangement, Cygenics gains one of only three cord blood storage licenses in India. It also gains access to its partner's sales and distribution network to market the cord blood banking. For Strassenburg, presumably the attraction is it helps the company access the future regenerative medicine market. India has a rapidly expanding middle class and if Cygenics can get its entry into this market right, it stands to create considerable long-term value for the company.

### **China (pop. 1.3 billion) cord blood storage business**

China represents a similarly attractive business prospect, although entry into this market will differ. There are currently 10 cord blood storage licenses that have been awarded in China, with each servicing a specific region. These businesses have an obligation to supply cord blood for the national network, similar to the one being created in Australia. However, over and above this service, each of these groups may also build a private cord blood storage business. There are two private firms working with two of the license holders in China, one of which is Hong Kong listed **Golden Meditech**. Golden Meditech operates three businesses including cord blood banking, medical devices and herbal medicine. Golden Meditech holds a 51% stake in **Beijing Jiachenghong Biological Technologies (BJBT)**, which it acquired in September 2003. BJBT charges private cord blood customers an initial fee RMB 5,000 (~A\$800) and an annual fee of RMB 580 (~A\$90).

Golden Meditech has recorded strong sales growth in the Beijing area, since it began cord blood banking through BJBT in the FY2003/04 (end Mar.) year. In that year, it recorded sales of approximately A\$0.6 million, followed by A\$2.3 million in 2004/05, and A\$5.4 million in 2005/06. The number of cords banked by the BJBT in 2005/06 was 6,600 units, 128% higher than the 2,900 banked in the previous year.

By way of comparison, Cygenics posted sales (upfront and annuity) in Singapore and S.E. Asia in FY2005 of \$1.6 million from a cord blood client base of 3,000, followed by sales in FY2006 of \$3.6 million from a base of 6,000, with Australia coming in as a new sales region.

For its latest half-year ended September 30, 2006, Golden Meditech recorded sales from cord blood banking of A\$4.8 million, an increase of 133% from the previous corresponding period. Gross profit from cord blood banking for the period was A\$2.1 million. Golden Meditech operates in Beijing but has plans to expand into Gunagdong Province.

Cygenics is looking to enter this market by investing in an existing cord blood business in China. Its expertise, funds (through the investment, in which a capital raising by Cygenics might be required) and its credibility would allow Cygenics to potentially add value to the existing business. Most recently, Cygenics signed a collaboration with the **Blood Centre of Zhejiang Province** in China in which Cygenics will help grow human T-cells ex-vivo for use in the treatment of HIV. Whilst Cygenics is scaling back this work, the announcement suggests that a cord blood banking partnership may evolve from this relationship. The Zhejiang province is the fourth largest in China.

There are approximately 16.9 million babies born in China each year. Golden Meditech's record to date indicates that the growth of the private cord blood banking market in China is still in its infancy, and that the prospects for other entrants (ie Cygenics), should they be able to secure access to a license holder, may be very lucrative, even if extremely conservative assumptions are made regarding the segment of the population that can afford cord blood banking. Achieving high growth rates similar to that achieved by BJB in an area that has not yet been accessed by a private cord blood bank would appear to be a reasonable likelihood for Cygenics.

**Indonesia (pop. 240 million) cord blood storage business**

In September this year Cygenics formed a partnership with **PT Kalbe Farma**, a major pharmaceutical company in Indonesia. Cygenics owns 51% of the business. Kalbe Farma owns several

hospitals in Indonesia giving the partnership good access to the cord blood market. While Cygenics is already collecting in Indonesia, the cord blood storage facility in Indonesia is expected to be operational early in 2007 and by mid 2007, Cygenics is hopeful that reasonable volumes of storage contracts will eventuate.

**Summary**

Cygenics has now built profitable blood cord collection and storage businesses in the Asia Pacific region. Its plan is to use its expertise and central corporate headquarters in Singapore to build a pureplay cord blood storage business looking to consolidate the Asia and Asia Pacific markets.

There is appeal with entering large and potentially very lucrative markets such as India and China. However with that lure comes obstacles that need to be overcome which are not insignificant and add their own level of complexity and risk. For example, gaining access to a license partner in China is likely to be a demanding activity. Cygenics is beginning to make inroads into these markets with evidence emerging that it has capabilities in overcoming bureaucratic process and government restrictions in its area of expertise.

Delays will and have been experienced for breaking into these large markets, and investors should expect that the time to establish businesses in these emerging markets will take longer than initially set out. However cord blood storage is now an accepted business activity that offers a high certainty of future earnings with annuity-style income from the service.

Cygenics is capitalised at \$20 million.

Bioshares recommendation: **Speculative Buy Class B**

Bioshares



*Peptech – from front page*

Peptech's anti -TNF domain antibody compound PN0621 will be the first domain antibody to enter the clinic, with a Phase I trial expected to commence in 2007. Peptech now looks set to become a much stronger biotech stock on an *international* scale, with enough cash to engage in asset development activities on a new level.

Bioshares recommendation: **Under review - pending recommendation of trading**

**The Bioshares 20 Index**

Change from June 30, 2005	<b>-2.4%</b>
Change from June 30, 2006	<b>17.0%</b>
Change - week ago	<b>-0.5%</b>

**Nasdaq Biotech Index**

Change from June 30, 2005	<b>20.3%</b>
Change from June 30, 2006	<b>11.8%</b>
Change - week ago	<b>1.5%</b>

**Clarification (re PXL):**

*In the last edition we stated that Proteome Systems Ltd (PSL) held cash at Sept. 30, 2006 of \$5 million. The company had in fact completed a private placement on September 29, raising \$3.8 million. The outcome is that the company's cash position is not a concern, as was stated in the commentary on PSL.*

## ***Biolayer Update – Wait for Agreement With Major DX Firm***

Biolayer (BLS: 12.5 cents) made a backdoor listing through SSH Medical last year. The company has developed a range of polymer coating materials that when added to immunoassay diagnostic tests, such as the ELISA test used by pathologists, has the capacity to improve accuracy of tests. A specific polymer coating is selected for a particular binding (between antibody on the test to the antigen in the sample) that optimizes the surface for an expected binding characteristic.

There are three main applications for the technology. One is for use as immunoassays (binding of antigens/proteins to antibodies). A larger market is for diagnostic immunoassays used in medical screening by pathology groups. The third application of the technology offers a paradigm shift for the diagnostic industry. The company is investigating uses its polymer surfacing technology to bind directly to any protein, removing the need for antibodies as binding sites.

This third application of the technology may allow the replacement of existing antibody-based tests where the antibody binding or stability is poor, or in commercial applications to separate/remove proteins.

### **Current progress status**

Biolayer has changed its commercial strategy slightly. Its aim is to license its technology to major diagnostic companies (and laboratory supply groups for research applications, although it is a smaller market) for use in specific diagnostic tests. The first stage is to conduct feasibility studies, for which it previously charged a fee. This is now conducted with no charge with a view to engage the target company in a product development agreement. The agreement will include contractual terms if Biolayer can successfully achieve diagnostic performance outcomes using its technology. The company is also placing more focus on the diagnostic immunoassay market.

### **Three feasibility studies underway**

Six weeks ago, the company started its first feasibility study with a major diagnostic group and is now conducted three studies in total. Results from all three studies should be available within two months and the company is hopeful that at least two of these will move to formal product development deals, with advanced discussions now underway.

From there, it will take up to 18 months to fully characterise the new diagnostic test utilising the Biolayer polymer coating technology before it becomes commercially available. The company will aim to negotiate upfront and milestone payments, of up to \$500,000 per test, and royalty income from tests is expected to range between \$100,000 - \$500,000 per test per annum. If the company's technology can gain 10% market penetration, then it stands to receive between \$16 - \$32 million a year in an ongoing royalty stream.

To date, the company has completed one licensing agreement with a life science company for research applications and one product development agreement in the same field.

Earlier this year Biolayer appointed a new CEO, David Beins, who previously worked for a major diagnostic company, **Roche**, for 18 years, most recent in a business development role in the Asia-Pacific region. With major diagnostic companies such as Roche the immediate target for Biolayer, Beins is well credentialed to lead the commercialisation of this technology.

### **Summary**

Biolayer's target sector is fairly narrow; six of the major diagnostic players in the world make up 75% of the in-vitro diagnostic (IVD) market. Each of these companies sells up to 200 IVDs which represents considerable market opportunity for Biolayer. A commercial development contract, which the company says is imminent, will suggest that this technology may indeed have wide commercial application in the IVD market.

Biolayer is capitalised at \$9 million with \$0.575 million in cash at the end of September this year.

*Bioshares* recommendation: Look for secured product development agreement with a major diagnostic company prior to investing, which is expected in next two months. **Speculative Buy Class B**

*Bioshares*

**Bioshares Model Portfolio (8 December 2006)**

<b>Company</b>	<b>Price (current)</b>	<b>Price added to portfolio</b>
Acrux	\$0.79	\$0.83
Alchemia	\$0.86	\$0.67
Avexa	\$0.295	\$0.15
Bionomics	\$0.21	\$0.210
Biosignal	\$0.17	\$0.22
Cogstate	\$0.21	\$0.18
Cytopia	\$0.640	\$0.46
Chemgenex Pharma.	\$0.63	\$0.38
Evogenix	\$0.530	\$0.47
IDT Australia	\$1.750	\$1.80
Optiscan Imaging	\$0.470	\$0.35
Mesoblast	\$1.620	\$1.27
Metabolic Pharmaceuticals	\$0.750	\$0.53
Neuren Pharmaceuticals	\$0.37	\$0.70
Peptech	\$1.30	\$1.31
Prima Biomed	\$0.050	\$0.09
Progen Industries	\$3.850	\$3.40
Sirtex Medical	\$2.84	\$1.95
Sunshine Heart	\$0.19	\$0.19

# **Mergers & Acquisitions: A Survey of Australian Biotech CEOs**

Peter Devine, Michael Vitale, Paul Williams, Rick Lord, Troy Saunders & Chau Mai

From time-to-time readers of Bioshares are supplied with surveys of activities within the Australian and global biotech sectors. These surveys, such as the Clinical Trials Survey or the CEO Salary Survey, are conducted by Bioshares. However, it is pleasing when readers can be offered results of surveys conducted by others with a strong interest in biotech investment issues. The survey presented below of Australian biotech CEOs on their attitudes to M&A activities provides investors with numerous points for consideration. –The Editors

## **Introduction**

The Australian biotechnology industry has grown rapidly in the last decade based on excellent research skills and significant government support. Indeed, Australia has many more biotechnology companies per capita than the US. However, at this stage the industry has not yet reached the stage of maturity needed to become a major force in global biotechnology, with listed Australian biotechnology companies being very small compared to their counterparts in the US and UK.

The size issue is illustrated by the fact that over half of the total capitalisation of the more than 140 biotechnology firms currently listed on the Australian Stock Exchange (ASX) is attributable to just three companies (CSL, Cochlear and Resmed). The majority of Australian biotech firms are single product companies in the discovery and early clinical trials stages of development, and there is simply not enough investment into the industry to allow all these firms to survive in the long term. Many companies are thus caught between the need to burn cash to feed R&D efforts and the need to conserve cash in order to prevent insolvency.

This has led to the view by some analysts that the industry is inefficient, and for a number of years these analysts have predicted that further growth of the industry toward maturity will be facilitated by - or indeed depends on - a wave of mergers and acquisitions (M&A) to consolidate the sector. Organic growth is seen as too slow to overcome the industry's problems.

Historically, there have been relatively few mergers among Australian biotechnology companies. An exception was the Cerylid acquisition of Kinacia in 2004, though the merged entity has recently sold off its assets. There were a greater number of unsuccessful M&A attempts in the past - one of the most publicised being between Peptech and Agenix.

However, in the past year an increasing amount of M&A activity has occurred in the Australian biotechnology industry. The first example of a successful merger between two publicly listed Australian biotechs has just been completed (Alchemia's acquisition of Meditech Research), and the CSL-Zenyth transaction. Furthermore, there have been a number of examples of acquisitions of unlisted domestic or overseas biotech companies by Australian companies (Bionomics - Iliad, AGT - Chemgenex, Evogenics - Absalus) as well as acquisitions of Australian biotechs by overseas companies (Bresagen, Vision Systems, GroPep, Enterix). Further examples of acquisitions of unlisted Australian biotechs by listed Australian biotechs include Peptech's purchase of Promics.

In response to the increasing view that M&A would be a driving force in Australian biotechnology moving forward, a survey of Australian biotechnology company CEOs was conducted in late 2005. This survey sought to identify the attitudes of biotech CEOs towards M&A, and to identify any impediments to the M&A process.

## **Methods**

### *Survey Participants*

Entrants were restricted to 93 biotechnology companies developing therapeutics for human use. Both listed and unlisted ('private') biotechnology companies were included. Senior management (mainly CEOs) were contacted via email, with a URL link to the survey site. Participation was on the basis that the identity of participants would be kept confidential.

### **Survey Construction**

A sample survey is shown in **Appendix I**. Critical factors for analysis were selected on the basis of the impact they have had on past M&A activities in all industries including biotechnology. Along with a series of questions to establish background information about the respondent, there were a number of questions intended to give insight into the respondent's opinions. These questions allowed the respondent to reply on a scale varying from "not important" to "extremely important". Finally a section was included for open-ended responses, which allowed respondents to freely comment on any issues and also provide feedback on the survey. These questions aimed to provide qualitative responses and were helpful in subsequent further analysis.

### **Survey Administration**

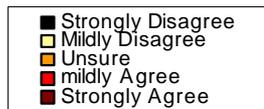
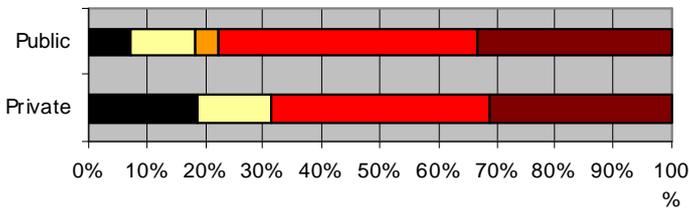
The survey was administered online through [www.surveymonkey.com](http://www.surveymonkey.com). From the initial 93 companies contacted, 48 responses were obtained (response rate 51.6%).

### **Survey Response Analysis**

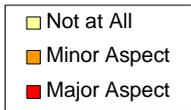
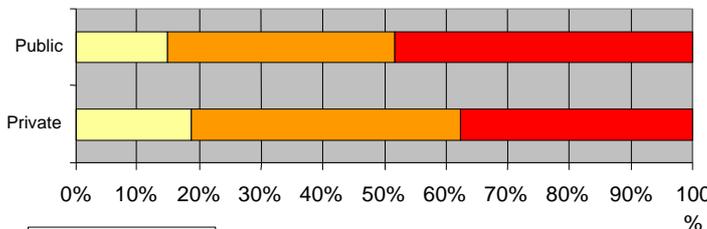
A preliminary automated analysis of the respondent data was provided by Survey Monkey, with additional analysis performed using an Excel spreadsheet to produce graphical representations of the responses to each question. Response averages were calculated by assigning each of the five responses a numerical value from one to five in ascending order. The numerical responses were averaged in order to derive the response average.

*Cont'd over*

**How essential is merger and acquisition (M&A) activity for the survival of the Australian biotechnology sector?**



**To what degree is M&A activity in your short-term Business Strategy?**



**Results**

**Q4.** The view is sometimes put forward that merger and acquisition (M&A) activity is essential for the survival of the Australian biotechnology sector. Do you agree? (48/48 responded)

Over 70% of respondents agreed with this statement, with listed and unlisted companies in close agreement.

**Q5.** To what degree is M&A activity in your short-term Business Strategy? (48/48 responded)

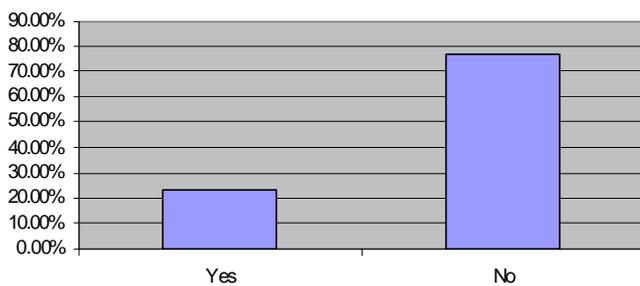
M&A was an aspect of company strategy for the majority of respondents, with nearly half of listed companies including this as a major strategy.

**Q's. 6-8: Company M&A History**

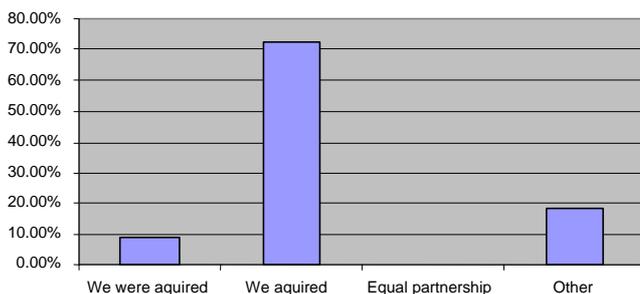
Just over one in five of the 48 respondents had been involved in an M&A, with most of these being the acquirer. In nearly half of these cases, the market perceived the transaction positively.

It is of interest to note that companies that had not gone through an M&A rated a lack of economic benefit as a major reason for a lack of M&A activity in Australia (Q.12), while those companies that had already done a merger or acquisition previously did not see this as an impediment. Presumably, these companies recognised the economic benefits that can arise through M&A activity.

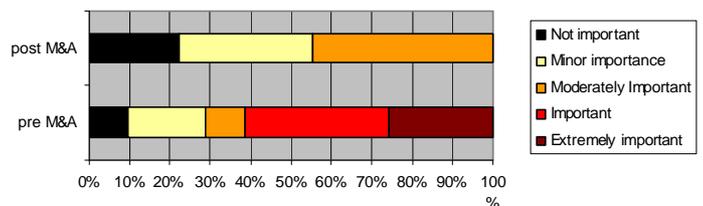
**Were you employed by a biotechnology company that has gone through a merger or acquisition in the last two years?**



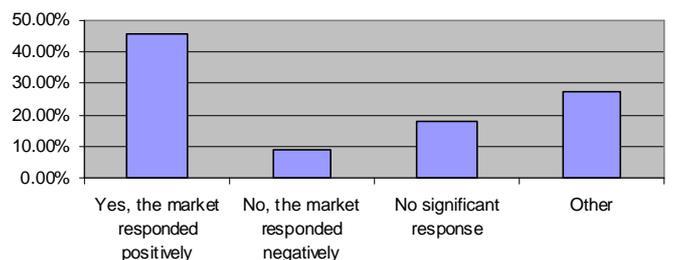
**What was your company's role in the M&A?**



**Lack of economic benefit**



**Did the market receive the merger or acquisition positively, for example through an increase in share price?**

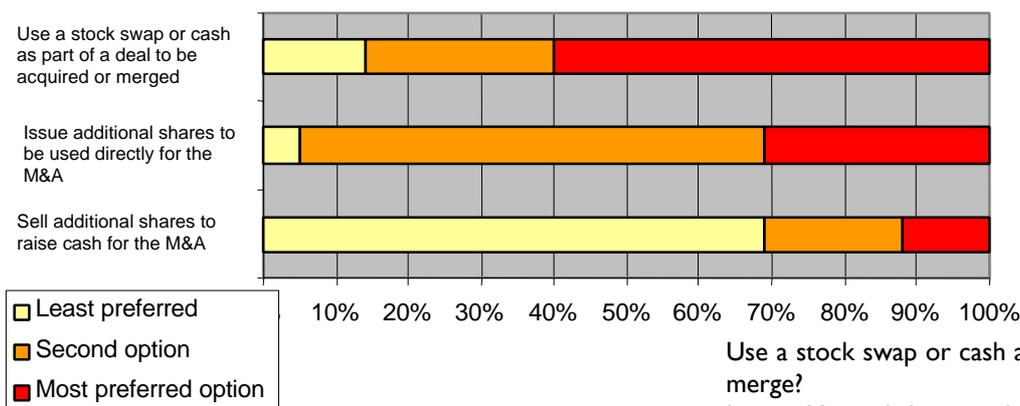


**Q.9: Would your company entertain a merger or an acquisition if it made commercial sense but also meant significant changes to the existing management team or Board? Please type your answer and any comments in the box below. (42/48 responded)**

Forty of forty-two respondents stated that their company would undergo management and board changes to entertain a commercially sensible merger or acquisition. The overwhelming theme to those answering 'yes' was that the merger or acquisition must be beneficial to all shareholders.

**Q10. If your company were to entertain a merger or acquisition, would you prefer to:**

**Q10. Financing Mechanism**

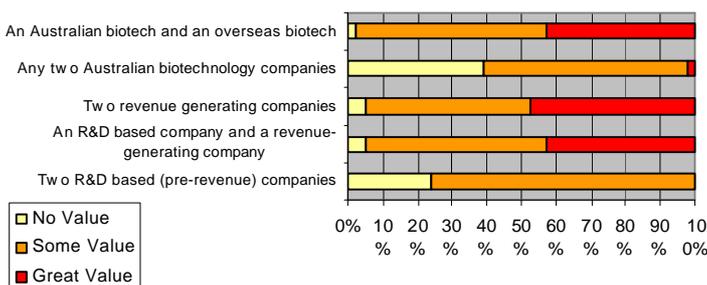


Use a stock swap or cash as part of a deal to be acquired or merged?  
 Issue additional shares to be used directly for the M&A?  
 Sell additional shares to raise cash for the M&A?

Public and private companies answered very similarly to the above question.

Most companies would prefer to use a stock swap or cash as part of the deal to be acquired or merged, with the sale of additional shares to fund the M&A being the least preferred option.

**Q11. Would investors perceive an increase in value?**

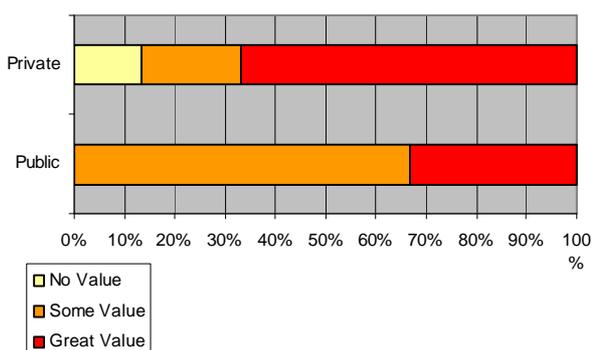


**Q11. Do you believe that, in general, investors in Australian biotechnology companies would perceive an increase in value resulting from M&A activity between: (42/48 Responded)**

Three M&A scenarios were preferred in terms of the perceived increase in value after the transaction. These were a merger between:

- An Australian biotech and an overseas biotech;
- Two revenue generating companies; and
- An R&D-based company and a revenue generating company.

**Q11 - Two Revenue-generating Companies**



The other options were not considered to provide great value, these being mergers between:

- Any two Australian biotechnology companies
- Two R&D-based (pre-revenue) companies

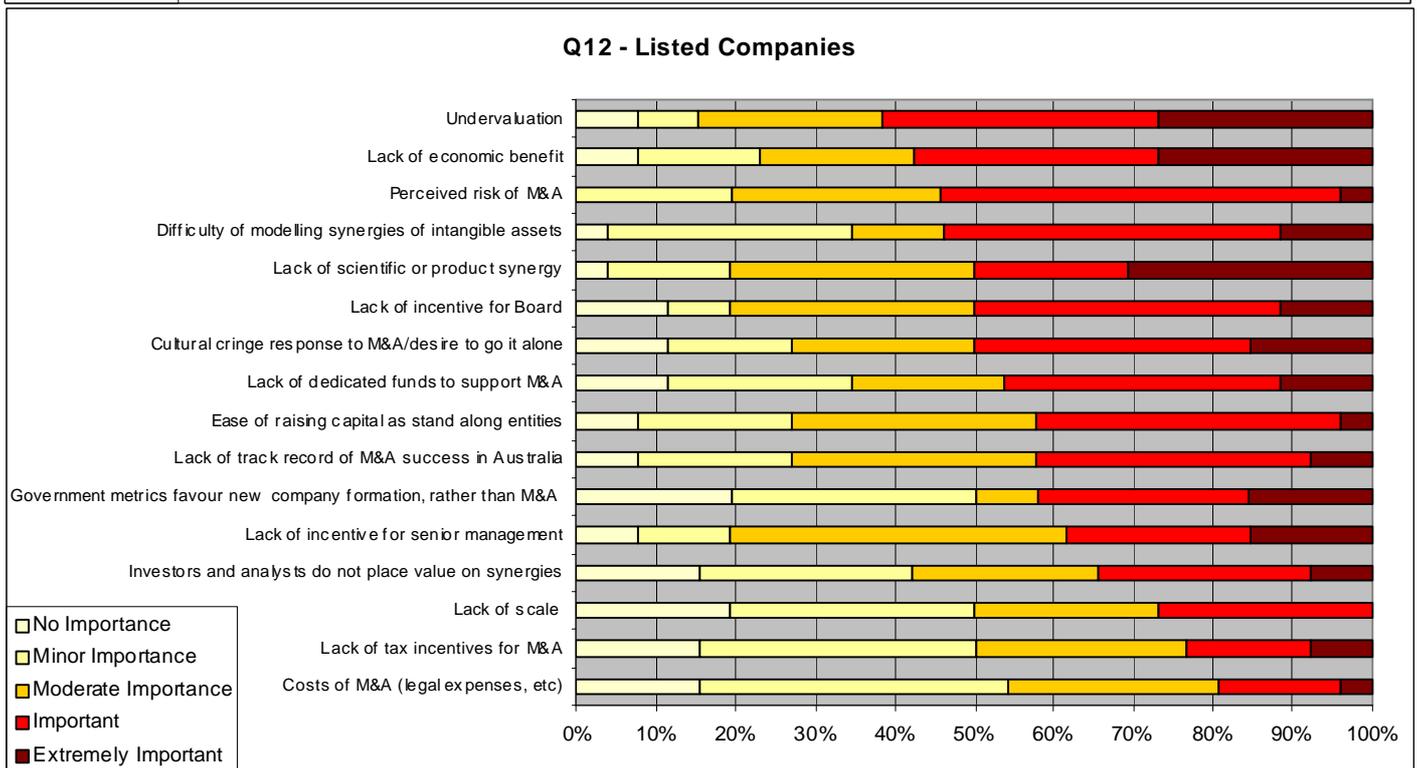
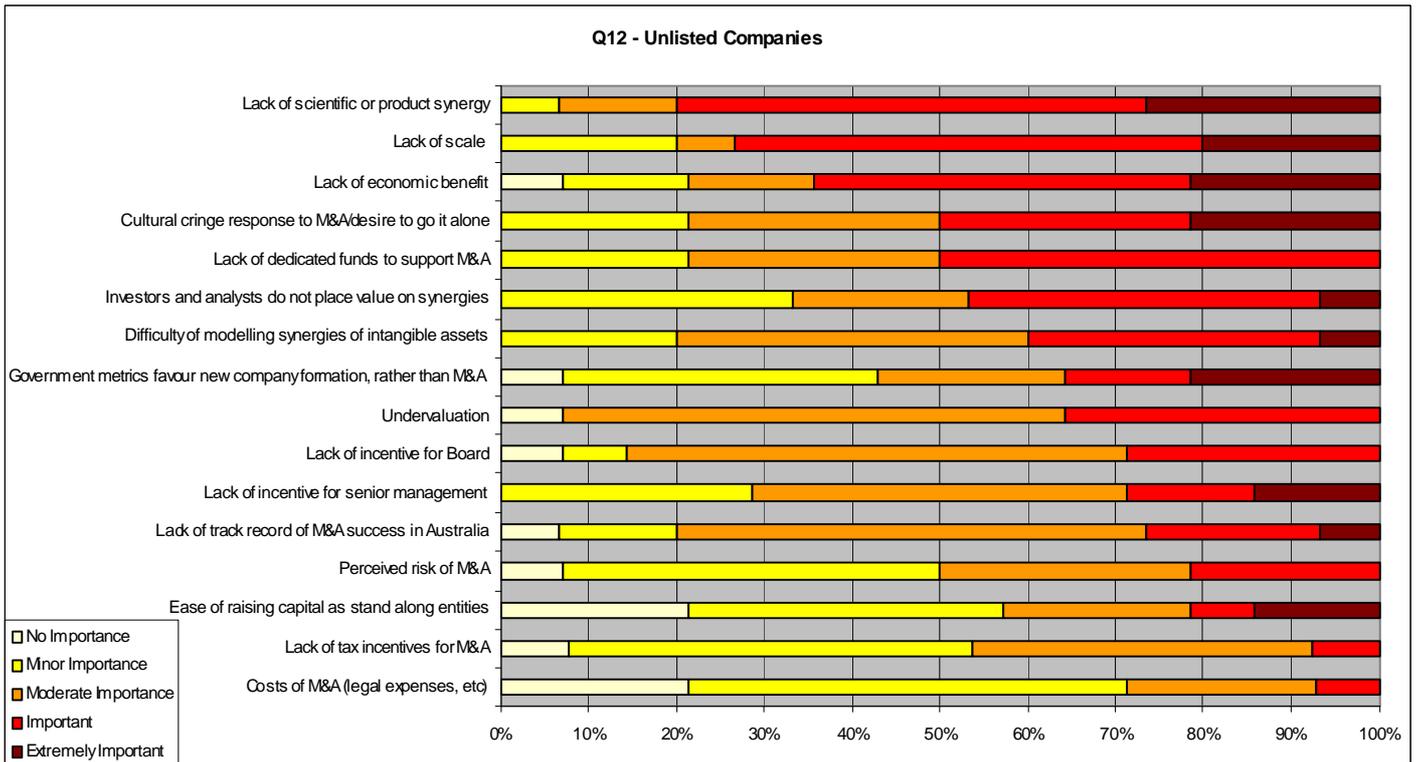
Listed and unlisted companies answered similarly except in relation to the value derived from the merger of two revenue generating companies, as shown on the figures at left.

**12. What do you believe are the main factors leading to a general lack of M&A activity between Australian biotechnology companies?**

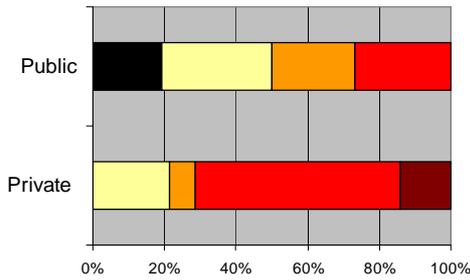
Overall, the three major factors leading to a general lack of M&A activity were identified:

1. Lack of scientific or product synergy;
2. Lack of economic benefit; and
3. Undervaluation.

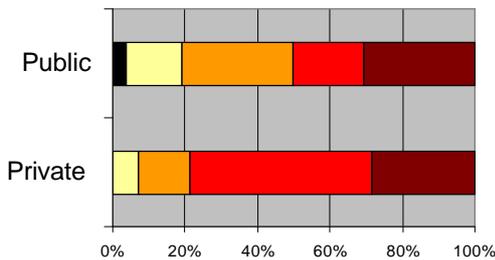
More than 50% of respondents rated these factors as important or extremely important. The data for listed and unlisted companies is shown below.



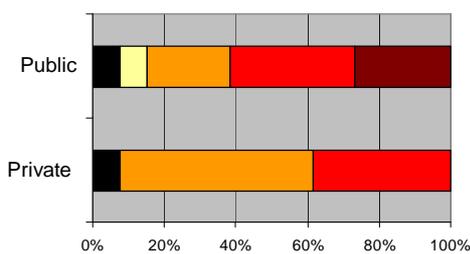
**Lack of Scale**



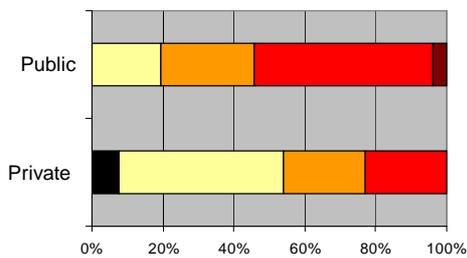
**Lack of Scientific or Product Synergy**



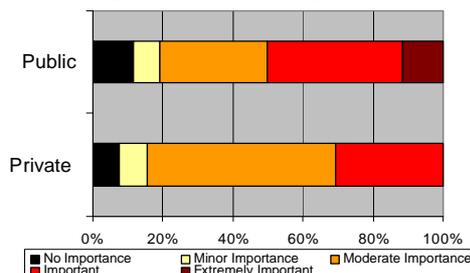
**Undervaluation**



**Percieved Risk of M&A**



**Lack of Incentive for Board**



No Importance  
  Minor Importance  
  Moderate Importance  
  Extremely Important

Listed and unlisted companies ranked their responses differently. Those responses rated at 50% or greater, in order of rank, were:

Unlisted:

1. Lack of scientific or product synergy;
2. Lack of scale;
3. Lack of economic benefit;
4. Cultural cringe response to M&A/desire to go it alone; and
5. Lack of dedicated funds to support M&A

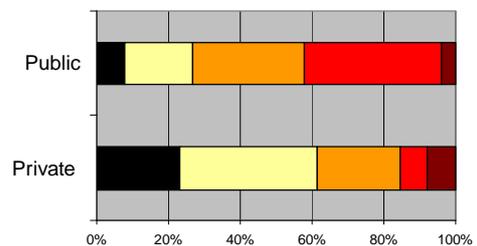
Listed:

1. Undervaluation;
2. Lack of economic benefit;
3. Perceived risk;
4. Difficulty in modeling synergies;
5. Lack of scientific or product synergy;
6. Lack of incentive for Board; and
7. Cultural cringe response to M&A/desire to go it alone

Comparison of the above results reveals differences in the perceptions of listed and unlisted companies, as shown at left and below.

Unlisted companies rated lack of scale and lack of scientific or product synergy more highly than listed companies, while listed companies rated undervaluation, perceived risk and lack of incentive for the board as more important factors. Listed companies also believed capital raising for a stand alone entity was less difficult.

**Ease of Raising Capital as Stand Alone Entities**



## Open Ended Comments

An overwhelming theme of the general comments was that management, boards and investors get in the way of M&A - in terms of culture, egos, lack of experience, and inappropriate remuneration and reward systems. Specific comments follow:

o An important factor is the inability of CEO's to admit the need to merge and the ego of founders and management. Importantly, some Biotechs appear to be run by their Boards [rather] than their management and those companies also are blind to the needs or benefits of mergers. The industry needs some larger companies to grow and show leadership to attract institutional funding and support for the sector. We have neither a large informed biotech investor base, pure biotech investment funds or large Biotechs (excluding plasma and device companies which are not Biotechs per se)

o Egos of existing investors on both sides tend to block M&A

o Biggest barrier is cultural - desire to go it alone and keep 100% of the pie.

o There is a severe lack of transaction experience in the sector both at the investment banking level and on boards and in senior management.

o Overwhelming issue is professional board members who are not shareholders and are therefore not motivated by shareholder value.

o Single greatest inhibitor of M&A is a lack of vision at the level of company Boards and management - they aren't focused on building internationally competitive businesses and don't understand that M&A is a critical component of building a viable business.

o Perceived difficulties (Board/management/Oz regulations) in dealing with Aussie companies by overseas companies/investors

o Investors can build their own portfolios by investing in separate companies so there is no sensible argument for mergers to be undertaken without very clear synergistic benefits. If pipelines are not related then value destruction will result. It is interesting that Australian Biotech success stories tend to be single product, non-venture backed companies - Telectronics, Cochlear, Resmed, Ventracor. So why merge or portfolio your product line - it can kill your company. Stay focused - straight and narrow is the path, waste no time!

o My belief is that there are not enough compelling reasons for any biotech to participate in M&A within Australia. Simply increasing the market cap is not good enough. There need to be business, financial and technical synergies as well as compatibility of cultures for M&As to be successful. However, I think that despite these challenges, many Australian biotechs are looking for M&A opportunities.

o They don't want to because they naively think they can cure cancer alone. Boards are also inexperienced and care more about being embarrassed than making money.

o I don't think M&A is 'essential for survival' of the industry but it would be a good idea. It may be the only route for individual small companies. It is one of several routes for growth for larger companies.

o The two most important difficulties in my opinion are (i) the difficulty of finding two companies that can undertake a merger of equals where  $1 + 1 = \text{more than } 2$ , and (ii) the unwillingness of board and management to contemplate giving up their roles in a combined entity.

o The deal has to make sense first - from a strategic and scientific view point - then other aspects follow

o Australian Biotechs are too fragmented in efforts and products. Synergies are often perceived rather than real. Merger of 2 research projects (which typifies Australian Biotech) does not give incremental value

o The Australian biotech industry appears risk adverse in M&A. Also sensitivities around protecting 'scientific' turf - the not invented here syndrome

o My view is that you achieve very little combining with an Australian company. The major strategic initiative for any Australian company must be to build a global business developing complimentary products. Little of those strategic initiatives are satisfy intra Australia

o Small scale (lack of resources) of local companies and lack of vision plus highly ego-driven boards makes discussion of M&A difficult. No one likes to be the target. Valuation issues can be difficult for Australian companies in biotech looking to be acquired. Low liquidity and difficult share registers can keep values down. Companies can be flat out raising funds and managing R&D looking forward to commercialisation to devote enough time and money to road show sufficiently to get profiled overseas.

o I believe the key elements required for successful merger / acquisition activity are (i) economic synergies, for example synergies in IP driving increased licensing value by increasing scope and depth of cover and operating synergies etc (ii) shared vision (critical) and (iii) shared culture (board / senior management teams). Whereas the first is present from time to time the second and third are rare and are the underlying cause for underperformance against expectations.

Most of the senior biotechnology managers who responded to the survey said that they are personally in favour of M&A, that their company has M&A as an important part of its strategy, and that they would consider a commercially sensible merger or acquisition even if it meant major changes to the company's board or to senior management, presumably including to their own job. Despite these views, relatively little M&A activity has in fact taken place. As noted in the comments above, when asked about barriers to M&A, the managers cited excessive egos and bad attitudes on the part of boards and senior managers, presumably not including themselves. Perhaps individuals with ego and attitude issues did not respond to the survey. If such issues are in fact a major barrier to M&A, then one might expect a continued period of low activity, perhaps followed by a rapid increase if a tipping point is reached and boards and managers come under intense pressure from shareholders to engage in M&A.

### Discussion

The majority of participants agreed that M&A was necessary for the survival of the Australian biotechnology industry, though some participants felt very strongly that this was not the case, as highlighted by some of specific open ended comments quoted above. M&A was also a key strategic initiative for most of the companies surveyed, and nearly all companies would entertain an M&A if it made commercial sense and showed benefit to all shareholders. The preferred transaction would be via a stock swap or cash.

Of the eleven companies that had been through a merger or an acquisition in the previous two years, around half felt the market had perceived the transaction positively. In most cases, these companies had been the acquiring party - the acquired party no longer existed, and therefore its (former) management did not respond to the survey. Respondents also felt that investors would perceive an M&A as valuable only if it involved a revenue-generating company or an overseas company.

A number of Australian acquisitions of overseas entities have occurred recently. An example of this was the Evogenix acquisition of Absalus Inc in May 2005. The acquisition provided Evogenix with all the technology needed to produce highly humanised monoclonal antibodies and created value such that when Evogenix listed on the ASX in August 2005 it demanded a share price 20% higher than the offer and closed the IPO with a market capitalization of \$32.3 million. Another example is the acquisition of US-based Chemgenex by AGT Biosciences in 2004. The deal was strongly backed by shareholders who saw the potential value. Other examples include Bionomics - Iliad Chemicals; Benitec - Avocel Inc; Scigen-Biotron; Vision Systems - Cytic Corporation and Ventana Medical Systems; pSivida Ltd - Control Delivery Systems; and Advantogen - Chopin Opus One LP. Peptech's investment in UK-based Domantis, though not strictly an M&A, is still an interesting example, as it allowed Peptech to gain access to a novel antibody technology.

Revenue generating Australian companies have also been the target of acquisitions by overseas companies. Recent examples include Novozymes offer for GroPep and Hospira's acquisition of Bresagen.

Cash-rich Australian companies are now acquiring research-based (cash utilising) Australian companies. For example, Peptech's acquisition of Promics allowed the company to gain access to a drug at Phase II stage, but for a new indication identified by Peptech.

Despite the responses indicating that there is little confidence in the value potential of a merger of two Australian biotechnology companies or two R&D based (cash burning) companies, such a transaction has been completed recently in the Alchemia acquisition of Meditech. Lack of synergy was identified in the survey as the main factor leading to a general lack of M&A activity in Australia, while difficulty modelling these synergies was also an important barrier. In the case of Alchemia and Meditech, the companies had clear scientific and product synergies, in that both had a focus on carbohydrate-based therapeutics.

Because many Australian biotechnology companies are still performing R&D on their prospective products, it is unlikely that any M&A attempts would be focused on gaining a better market position through eliminating competition, as most of these companies are a long way from entering the market. Short term strategy is mostly focused on product development and research, and financial positions do not allow such mergers or acquisitions. Therefore it is likely that the majority of future M&A attempts in Australia will be motivated by the need to acquire complementary expertise, technologies, and intellectual property in order to improve the combined companies' chances of getting a product to market. The real value for any merger or acquisition which is motivated in this way can only be realised if the technologies or competencies of the two companies involved can be combined and integrated in a synergistic manner. In the absence of this synergy, it would be likely that the two companies would have been better off as separate entities.

Despite the Alchemia - Meditech merger, scientific synergy will be difficult to find in the Australian context due to the relatively small size and tight focus of most companies in the industry. However, it is apparent that by looking overseas Australian companies can find acquisition partners to fill the gaps. An example is Bionomics' acquisition of the French central nervous system (CNS) business, Neurofit. The acquisition provided Bionomics with a world class CNS preclinical development capability, as well as a commercial relationship with some of Europe's leading pharmaceutical and biotechnology companies. The acquisition will enable Bionomics to fast-track the development of central nervous system therapeutics, including existing targets in epilepsy.

The second and third highest ranked barriers to M&A activity in Australia were a perceived lack of economic benefit and undervaluation. Arguably, these factors are somewhat interrelated. While there have been successes stories such as the aforementioned example of Evogenix and Absalus, many companies have received unfavourable reactions from the investment market when considering a merger or acquisition. An example of this occurred in early October 2005 when the Australian biotechnology firm pSivida Ltd acquired the private US drug delivery firm Control Delivery Systems (CDS) for AUD \$140 million. The acquisition is intended to strengthen pSivida by providing an expanded prod-

uct pipeline and a steady revenue stream from a licensing agreement which CDS holds with pharmaceutical company Bausch & Lomb. pSivida thus became one of the first bio-nanotech companies in the world to generate revenues from products. Despite these advantages for the company, in the week following the announcement, its ASX share price dropped by 25%.

Senior management and board difficulties also ranked highly as an impediment to M&A. Open ended questions indicated this was a very serious issue, with most responses describing problems of culture, ego, and the inexperience of management, boards, and investors. It is possible that due to the potential personal financial loss, executives may subconsciously play down the value of merger opportunities. Surprisingly, nearly all respondents indicated they would advocate an M&A even if it meant drastic changes to senior management.

Differences were apparent in the attitudes of publicly listed and unlisted biotechnology companies. Undervaluation was the key issue identified by listed companies but was not considered as important in unlisted companies, whose value on any given day is generally a matter of negotiation, while public companies trade at a market price which may be depressed at the time. Similarly, the identification of perceived risk by listed companies is likely to reflect share price volatility. Lack of scale was identified as a key issue by unlisted companies, which may be a reflection of the smaller size of these relative to the listed companies.

In the future it is likely that M&A activity will continue, though perhaps only at the same low rate experienced historically rather than at the increased rate predicted by some analysts. Listed Australian biotechs, particularly those that are struggling with their core technology and have a low share price but lots of cash, could make further acquisitions of overseas companies. For these companies, adding an overseas subsidiary with complementary expertise would be a good move. In addition, there could be additional acquisitions of listed Australian biotechs by overseas companies seeking established products and assets at a good price. Companies such as Peptech, PanBio, GenePharm, Lipa Pharmaceuticals, IDT, Portland Orthopaedics, Agenix, Anadis, Medical Developments, USCOM, Medical Monitors, Cogstate, and Probiomics might be attractive to overseas companies that are in similar businesses or are large customers (e.g. Pfizer for Cogstate).

In terms of domestic acquisitions, the biotechnology sector is widely seen as undervalued at the moment, making companies unwilling to sell except at a premium that other Australian companies may be unwilling to pay. As noted above, Australian biotechs tend to have little scientific or product synergy; and where such synergy might exist, the companies may be located in different places, creating management challenges. Acquisition by overseas companies is therefore more likely.

## Conclusion

The survey findings go some way towards explaining the relatively low level of M&A activity in the Australian biotechnology sector, despite the generally positive view of such activity.

A merger or an acquisition may be the only hope that investors in many small Australian biotechs have of earning any return on their capital, and the only way that the intellectual property owned by such companies will ever lead to a product on the market. From that perspective, M&A should be encouraged and perhaps facilitated.

Based on the survey responses regarding barriers to M&A, education of biotech boards and managers with respect to the value-creating potential of mergers might be useful, particularly if coupled with a rational appraisal of their company's prospects as a stand-alone business.

Greater awareness of the opportunities and challenges in M&A with overseas companies might also be helpful to boards and managers who are daunted by the apparent complexity of a foreign transaction. As noted above, the other major barriers to M&A cited - lack of scientific or product synergies, and cultural cringe - are likely to change only slowly, as experience with M&A outcomes grows and, perhaps, shareholder pressure grows. Unless the government wants to buy up biotechs like sugarcane farms, move the managers on, and reallocate the assets to more productive use, there may not be much more that can be done.

For the immediate future, then, our view is that M&A in the Australian biotechnology sector is more likely to be talked about than to be carried out, despite the assertions of interest, importance, and even necessity. The modest education and publicity measures described above may quicken the pace until market forces overcome reluctance.

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**Acknowledgement**

Thanks to Catherine Challen and Nirdosh Puri for helpful input into the survey design.

**Appendix I: Mergers & Acquisitions Survey**

- Q1. What is the name of your company?
- Q2. What is your position with the company?
- Q3. How long have you worked for the company?
- Q4. The view is sometimes put forward that merger and acquisition (M&A) activity is essential for the survival of the Australian biotechnology sector. Do you agree?
- Q5. To what degree is M&A activity within your current short term business strategy?
- Q6. Were you employed by a biotechnology company that has gone through a merger or acquisition in the last two years?
- Q7. Did the market receive the merger or acquisition positively, for example through an increase in share price?
- Q8. What was your company's role in the M&A?
- Q9. Would your company entertain a merger or an acquisition if it made commercial sense but also meant significant changes to the existing management team or Board? Please type your answer and any comments in the box below.
- Q10. If your company were to entertain a merger or acquisition, would you prefer to:
- Sell additional shares to raise cash for the M&A?
  - Issue additional shares to be used directly for the M&A?
  - Use a stock swap or cash as part of a deal to be acquired or merged?
- Q11. Do you believe that, in general, investors in Australian biotechnology companies would perceive an increase in value resulting from M&A activity between:
- Two R&D based (pre-revenue) companies
  - An R&D based company and a revenue-generating company
  - Two revenue generating companies
  - Any two Australian biotechnology companies
  - An Australian biotech and an overseas biotech
- Q12. What do you believe are the main factors leading to a general lack of M&A activity between Australian biotechnology companies?
- Lack of scientific or product synergy
  - Lack of economic benefit
  - Lack of incentive for senior management
  - Lack of incentive for Board
  - Lack of scale
  - Ease of raising capital as stand along entities
  - Undervaluation
  - Cultural cringe response to M&A/desire to go it alone
  - Lack of tax incentives for M&A
  - Government metrics favour new company formation, rather than M&A
  - Costs of M&A (legal expenses, etc)
  - Investors and analysts do not place value on synergies
  - Lack of dedicated funds to support M&A
  - Perceived risk of M&A
  - Lack of track record of M&A success in Australia
  - Difficulty of modelling synergies of intangible assets

**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*

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