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Bioshares

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

In this edition...
Its been quite some year in biotech, with the year finishing on a generally positive and upbeat note and the outlook for 2007 is for more good things to follow. Inside, we highlight the some of the best deals, financings, and M&A transactions that have occured during 2006. And we also award the equivalent of biotech's Brownlow Medal for 2006.
With this being the last edition for 2006, we also offer our Super Six Stock selections for 2007 and also list five danger stocks for the year to come.

The editors

Companies covered:
Super Six Picks– ACR, PTD, IDT, SRX, SHC, VCR

	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)	6.2%
Cumulative Gain	**196%**
Average Annual Gain	**24.9%**

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

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The Best of Biotech in 2006

Well once again it was a turbulent year for the Australian biotech sector. The second quarter saw share prices plummeting (down 18% overall) only for the sector to repeat its standard post sell-off recovery in the second half of the year. Expectations across the board are set in the upper limits for 2007 with the drivers expected to be both local and international.

Major clinical study results are expected from **Metabolic Pharmaceuticals**, **Avexa**, **Progen Industries**, **Chemgenex Pharmaceuticals** and **Peplin**. Several companies are also expected to begin/conduct Phase III trials including **Pharmaxis** (now underway), Metabolic Pharmaceuticals, Neuren Pharmaceuticals, Progen Industries, Avexa (pending positive Phase II results) and **Prima Biomed**.

It was a year when M&A finally arrived in the Australian biotech sector, with nine companies either acquired/merged or still completing M&A transactions, including the first two ever M&A deals completed between listed Australian biotechs.

Below we take a look at some of the key events in 2007 and we rate the most significant of these under various categories.

Best licensing/collaboration deal
The much anticipated deal of the year finally arrived in June when **Cytopia** announced its major collaborative deal with **Novartis,** worth as much as $274 million if all milestones are achieved. It was Kevin Healey's swan song as CEO of Cytopia although astoundingly the company's share price has fallen by almost 40% from that time.

Other notable mentions were **Biota Holdings,** which completed its second preclinical deal within 12 months. In December last year Biota signed a collaborative deal with **MedImmune** for its RSV program valued as much as US$112 million. Then last month the company completed a licensing and collaboration deal for its Hepatitis C program with **Boehringer Ingelheim** for up to US$102 million. Another important deal during the year was by **Polynovo**, an investee company of **Xceed Biotechnology**, which signed a global partnering deal with **Medtronic**.

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To all our subscribers, we wish you a Merry Christmas and Happy New Year.
– The Editors

Bioshares will next be published on
January 12, 2007 (Edition 199)

Best M&A deal

As mentioned, it was a busy year for M&A in the sector, with two local biotech company mergers taking place. Alchemia acquired **Meditech Research** and completed the first ever biotech merger between two listed biotechs. However the best M&A deal completed locally was between **CSL** and **Zenyth Therapeutics**. The selling price was $108 million representing a 76% premium to its earlier share price. Importantly, it may not be the last acquisition in Australia for CSL.

The best acquisition of a local firm by an international firm was of **Vision Systems**, which was sold to **Danaher Corporation** for $791 million, a 117% premium to the company's share price before the aggressive three-way bidding war for the company began. The deal was triggered by the sell off by Vision Systems of its fire security business, which ironically was effected to prevent an acquisition of the company. In the end, the price paid appeared to appease most shareholders and management.

Most significant capital raising

Whilst the largest capital raising during the year was by **Ventracor**, which raised just over $50 million through a private placement and a rights issue, the most significant for the year was by **Peplin**, which raised $40 million from a number of international investment groups, including the specialist biotech investment fund **MPM Capital**. It's significant because it places Peplin in a strong position from which it can retain full rights to its lead compound and potentially has access to more funding through an even larger raising should the Phase II studies yield positive data. MPM spent six months conducting due diligence and consulted 15 clinical specialists prior to making the decision.

Another noteworthy mention is **Clinuvel**, which raised $41 million during the year, attracting about 10 European institutions onto its share register. Also **Heartware** raised $32 million during the year.

Most surprising departure

There were (at least) 22 biotech CEOs who departed their positions during the year in what are always described as 'amicable' separations if not for 'family reasons'! One split that surprised most of the market was the departure of Igor Gonda from **Acrux**. Gonda had filed an action against the company, which has now been resolved out of court. Gonda was replaced by the very able Richard Treagus.

Best resurrection for 2006

A substantial number of companies in the sector over the last 18 months have been in very precarious positions. However, four of these companies have made very spirited returns over the last year including **Sunshine Heart**, **Antisense Therapeutics**, **Prana Biotechnology** with the most impressive turnaround going to **Metabolic Pharmaceuticals**. Two years ago the company reported disappointing Phase II trial results and the future seemed very uncertain for this largely 'one product' company. Since that time, the company has completed a larger Phase II obesity treatment study and has broadened its portfolio which now includes more clinical programs and a platform technology.

Best internal investment return

Peptech sealed off the best internal investment return from the sale of its investee company, **Domantis**, to **GlaxoSmithKline**. Peptech will receive $170 million from the sale proceeds, which may be capital gains tax exempt and the sale sets Peptech on course to build a billion dollar biopharmaceutical business.

Most positive clinical outcome

Peplin produced some impressive Phase II data for its skin cancer topical treatment product, with clearance rates of around 70%, which helped base the company's significant capital raising during the year. However the most positive clinical outcome was by **Progen Industries** with its liver cancer study. A preliminary result showed that its lead candidate, PI-88, increased disease-free survival in patients with liver cancer by 76%. The company's share price almost doubled on the news and the company has used the result to help conduct a $20 million underwritten capital raising.

Most valuable player for 2006

It's been a transformational year for **Peplin**. Exceptionally positive Phase II trial results, and a $40 million capital raising has transformed this small biotech into an emerging specialty pharmaceutical company backed by a major biotech investment fund, **MPM Capital,** in the US. Peplin is Bioshares 2006 'most valuable player'.

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The Bioshares 20 Index	
Change from June 30, 2005	**2.6%**
Change from June 30, 2006	**23.0%**
Change - 15/12/06	**-0.7%**
Nasdaq Biotech Index	
Change from June 30, 2005	**16.8%**
Change from June 30, 2006	**8.6%**
Change - 15/12/06	**-1.4%**

Bioshares Super Six Stocks – 2007

Super Six Performance 2006

Each year Bioshares goes out on a limb and selects six stocks that look like they will perform well over a twelve month period. In the volatile world of biotech investment, twelve months is a long time, and it is possible for individual stocks to rise and fall strongly several times over a twelve month period. Our selections for 2006 did not, on average, perform very well, with an average price gain of 6% being recorded. Last year the average price gain was 10%.

Performance of 2005 Super Six Stock Picks over 2006

Company	Share Price (23/12/05)	Share Price (21/12/06)	Change over year
Alchemia	$1.20	$0.80	-34%
Avexa	$0.26	$0.29	12%
Biota Holdings	$1.52	$1.60	5%
Cytopia	$0.85	$0.62	-27%
Neuren Pharmaceuticals	$0.53	$0.37	-31%
Phylogica	$0.21	$0.44	110%
		Ave.	**6%**

Super Six Stock Picks for 2007

Company	Share Price (22/12/06, 2.30 pm)
Acrux	$0.78
Peptech	$1.54
Inst. Drug Tech. Aust	$1.92
Sirtex Medical	$2.80
Ventracor	$0.935
Sunshine Heart	$0.25

Alchemia's shares price fell 33% from December 23, 2005 to today's close of 80 cents. Much of the softening in Alchemia's share price can be attributed to the decision by a now former marketing partner, Abraxis Biosciences, to nullify their marketing and development agreement for a generic version of Arixtra.

Avexa's share price increased by a satisfactory 15%, but could well have been higher towards the end of the year had it not experienced slow recruitment rates in its Phase IIb trial of its HIV drug candidate apricitabine and been required to conduct an additional cardiac safety study.

Biota is arguably the most well known Australian biotech stock both locally and internationally, courtesy of its royalty entitlements to the flu drug Relenza. Stockpiling of Relenza continues to occur, and this, coupled with other drug partnering developments has seen the stock finish slightly (5%) ahead of where it was 12 months ago.

Cytopia's stock price fell 27% over the twelve month period, with the inability to close a Phase I dose escalation study of its potential cancer treatment CYT997 in a timely manner being one of the explanations for its lacklustre price performance. It should be noted that the stock did run to a high of $1.08 in the lead up to the company's announcement of an impressive partnering deal with **Novartis** for its JAK3 kinase program (announced on June 5, 2006). It would appear this deal was not widely appreciated or supported by the market, judging by the stock's 26% decline by June 30.

Neuren Pharmaceuticals saw its share price decline 31% over the 12 month period, despite completing a 33 patient pharmacokinetic and safety study of its novel neuroprotectant tripeptide, Glypromate. In contrast, Phylogica's share price ended up strongly, posting a 100% gain. Despite the early stage of development of Phylogica's peptide platform, the company has benefited from strong global interest in protein and peptide drug platform technology companies.

Super Six Picks for 2007

Leading the way (alphabetically) in our set of Super Six picks for 2007 is **Acrux**. Iterating the view we made in Bioshares #190, that Acrux may be a business that is up for sale, we expect that should that situation eventuate then a healthy premium is likely to be added to its current price. Acrux is a soundly managed business and its drug delivery technology is well advanced on the commercialisation path, relative to a number of other Australian listed drug delivery technology businesses.

Following the sale of **Domantis** to **GlaxoSmithKline**, netting **Peptech** an estimated $170 million, Peptech is now on its way to becoming the best resourced Australian biotech. It is in a position to be able to contemplate objectives and ambitions other Australian biotechs can conceive, without needing shareholders for further funds. Peptech objective of supporting the development of several compounds, including PN0621, up to and including the Phase III stage of development, is now a possibility and a source of potentially very significant value creation.

Institute of Drug Technology Australia (IDT) is, like Acrux, another business that is potentially up for sale. While there is no indication from the company that this is the case, the fact that the majority of acquisitions that have taken place this year of Australian life science firms have been of cash generating businesses, makes IDT a likely candidate. That aside, the stock could equally move forward positively if growth in company revenues are strong as anticipated

Sirtex Medical is company that carries the weight of litigation on its back, with the **University of Western Australia** suing it and founding director Dr Bruce Gray over questions of entitlement to the SirSpheres liver cancer treatment technology. The

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company is also counter-suing Dr Gray and is seeking his removal from the board of Sirtex. However, if Sirtex generates earning of $30 million in FY2007, up from $22.6 million in , then the stock is likely to hit a sweet spot.

Ventracor received two tranches of positive news in the week before Christmas. Firstly it gained European approval for its VentrAssist device. Further more, the company was granted conditional approval from the FDA for its protocol for its clinical destination therapy (DT) trial. The upshot is that Ventracor is not required to compare its device head-to-head against the existing LVAD heart pump on the market. Our expectation is that the trial may be more similar to the REMATCH study where best existing pharmaceutical treatment may be the control. This will save the company considerable time and remember that Ventracor will be fully reimbursed for each device it implants in the US for the cost (about $100,000 per device). The trial is expected to involve over 100 implants.

Sunshine Heart is developing a heart assist device (the C-Pulse), suitable for treating heart failure, that does not contact blood. The company recently raised $19.8 million and is now on a financially secure footing. The company is working towards commencing a US feasibility clinical trial in 2007. There is always the possibility that a large US medical device company would be interested in acquiring Sunshine Heart once feasibility studies are completed, but before a registration trial is conducted in 2008.

Danger Stocks – 2007

Heartware, a developer of a left ventricular heart assist device, has a major challenge to meet clinical trial milestones. Having fallen behind in its ambitious clinical trial program, Heartware will struggle if delays occur again. **Cellestis** is a stock cited in previous editions of Bioshares as overvalued. The company is trading on the expectation of very large profits which have not occurred although sales are growing. **Fermiscan** is a stock investors would well to avoid because it is attempting to develop a breast cancer screening test based on the use of a limited number of synchotrons (from around the world) that are fundamentally designed for research, not for volume based commercial products or processes. **Solagran** is a company that operates at the periphery of evidence based medical product development. Companies that blur the businesses of complementary medicines and evidence base medicine are likely to struggle through a lack of focus and discipline. **Apollo Life Sciences** lacks many of the validating features of a soundly structured biotech company including the presence of board members with relevant industry experience and a credible business plan.

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Performance of Danger Stocks in 2006

Company	Share Price (23/12/05)	Share Price (21/12/06)	Change over year
Genetic Technologies	$0.40	$0.35	-13%
Novogen	$4.91	$2.55	-48%
Medical Developments	$0.67	$0.61	-9%
Portland Ortho.	$0.33	$0.43	30%
Ambri	$0.08	$0.06	-29%
		Ave.	**-14%**

Danger Stocks in 2007

Company	Share Price (21/12/06)	Cap'n ($M) (21/12/06)
Apollo Life Sciences	$0.46	$83.8
Solagran	$0.36	$54.6
Fermiscan	$1.02	$129.3
Cellestis	$3.83	$366.9
Heartware	$0.70	$130.4

Bioshares Model Portfolio (22 Dec 2006, 2.30pm)

Company	Price (current)	Price added to portfolio
Acrux	$0.78	$0.83
Alchemia	$0.78	$0.67
Bionomics	$0.22	$0.210
Cogstate	$0.20	$0.18
Cytopia	$0.65	$0.46
Chemgenex Pharma.	$0.60	$0.38
Evogenix	$0.73	$0.47
IDT Australia	$1.95	$1.80
Optiscan Imaging	$0.46	$0.35
Mesoblast	$1.76	$1.27
Metabolic Pharmaceuticals	$0.79	$0.53
Neuren Pharmaceuticals	$0.38	$0.70
Peplin	$0.85	$0.83
Peptech	$1.55	$1.31
Phylogica	$0.43	$0.42
Prima Biomed	$0.050	$0.09
Progen Industries	$5.64	$3.40
Sirtex Medical	$2.83	$1.95
Sunshine Heart	$0.25	$0.19
Ventracor	$0.92	$0.92

Portfolio Changes

We have taken profits with Avexa (29.5 cents) and Biosignal (16.5 cents) has been removed from the portfolio. Peplin (85 cents) has been added to the portfolio as has Phylogica (43 cents) in light of the strong global interest in platform protein/peptide library companies, and Ventracor (92 cents) following positive recent developments.

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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, Neuren Pharmaceuticals, Pharmaxis, NeuroDiscovery, Prima Biomed, Biotech Capital, Cygenics, Psivida, Cytopia, Biodiem, Peptech, Starpharma Holdings, Cogstate, Xceed Biotechnology, Healthlinx, Incitive, Optiscan Imaging, Bionomics, ChemGenex Pharmaceuticals

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