# In this edition...

Welcome to 2007 and a potentially very exciting year for biotech investors. Already, the year has got off to a very strong start, on the back of the best quarter experienced over the last two years. The Bioshares Index increased 19.2% in the December quarter 2007, compared to 5.9% for the Nasdaq Biotech Index.

Change is a constant in the world of biotech investment and how the year will end no one can say. However, the next quarter has all the makings of one the best yet.

### The editors

|                            | 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)    | 16.9%               |
| Cumulative Gain            | 225%                |
| Average Annual Gain        | 26.7%               |

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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# Bioshares

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

# **Quarterly Review**

# Biotech Sector Finds Favour With Investors

Investor sentiment shifted positively towards listed Australian life science firms in the December quarter of 2006, with 80 of 127 companies (63%) recording positive price gains in their share prices over the quarter. More significantly, 37% of stocks recorded quarterly price gains of greater than 20%.

The improvement in sentiment towards biotech occurred for at least three reasons. Firstly, the takeovers of three companies at substantial premiums (**Gropep**, **Zenyth Therapeutics** and **Bresagen**) were completed through to delisting in the fourth quarter (with two more imminent in the March quarter of 2007, **Mayne Pharma** and **Vision Systems**). These events conclusively demonstrate that there is value to be found amongst Australian listed life science firms. More M&A transactions are expected in 2007.

Secondly, several noteworthy capital raisings have occurred over the year, especially **MPM Capital**'s \$20 million investment in Peplin. MPM Capital is a high profile US based life sciences investor, with more than US\$2 billion in funds under management.

A third reason is that a reasonable number of companies have advanced the development of their therapeutic product candidates or medical devices to pivotal stages in development at which many more investors are willing to commit investment funds, for example, the gaining of regulatory approval in Europe for Pharmaxis' Aridol and Ventracor's CE mark for VentrAssist.

# Index performance

The Bioshares Index includes all smallto-medium cap listed life science stocks except for certain listed investment companies and selected large cap stocks, which are included in the Bioshares Large Cap Index. For the December quarter, the Bioshares Index posted its strongest gain in eight quarters, increasing by 19.2%. The Bioshares Index outperformed Nasdag **Biotech Index** (up 5.9%), the **Bioshares** Large Cap Index (up 14.4%) and the ASX 300 Index (up 10.4%). However, the Bioshares Index is still well down (-16%) on the position it held at the close of 2004. From two years ago, the Nasdaq Biotech Index is 5% higher, the Bioshares Large Cap Index is up 72% and the ASX 300 Index is

Cont'd over

Index performances for last four quarters

| madx portermanded for last roar quartore |         |         |         |         |  |  |  |  |  |
|--|---------|---------|---------|---------|--|--|--|--|--|
|  | Q1 2006 | Q2 2006 | Q3 2006 | Q4 2006 |  |  |  |  |  |
| Bioshares Index                          | 1.4%    | -18.3%  | 5.2%    | 19.2%   |  |  |  |  |  |
| Nasdaq Biotech Index                     | 6.4%    | -11.7%  | 1.5%    | 5.9%    |  |  |  |  |  |
| Bioshares Large Cap Index                | 14.9%   | -1.3%   | 2.1%    | 14.4%   |  |  |  |  |  |
| ASX 300 Index                            | 7.8%    | -1.1%   | 1.6%    | 10.4%   |  |  |  |  |  |

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41% higher. Despite this latest strong gain for the Bioshares Index, but considering that the small-to-medium cap biotech sector has not been attractive as an asset class for the last two years, its position relative to other sectors may be set to change as investors looking for value opportunities on a sector basis switch to biotech stocks.

# Capital raisings

Thirty-three companies secured a total of \$154 million in funds to support working capital requirements in the December quarter. Eighteen companies used private placements to raise new capital. Including funds raised though IPOs of \$37 million, the total funds raised for the quarter was \$191 million.

The largest capital raising was that conducted by **Progen Industries**, which raised \$20 million in a very short space of time in December. The funds will be used to support the Phase III clinical trial program of Progen's angiogenesis inhibitor PI-88. **Clinical** 

**Cell Culture** conducted a very well supported share purchase plan and placement, raising \$13.77 million, with **Hunter Hall Investment Management** entering the register with a 5.7% stake in the firm.

For calendar year 2006, Australian life science firms raised a total of \$627 million, down slightly from the \$638 million raised in 2005, but still well above the \$534 million raised in 2004 and \$532 million raised in 2003.

While the aggregate levels of funds raised seems healthy, the reality is that many smaller companies with weak share prices have struggled to raise funds in a sustainable manner. The relatively harsh conditions over the last two years for companies that have hit rough patches has meant that for some, other funding mechanisms have has to be considered. An emerging trend is the uptake of convertible notes as a funding mechanism, with four compa-

Cont'd on page 4

Capital Raisings by Australian-listed Biotech Companies Q4 2006

| Company                         | Investment manager/Investor                              | Type of raising                              | Funds raised (\$M) |
|---------------------------------|--|--|--------------------|
| Progen Industries               | eG Capital   | Private placement                            | \$20.00            |
| Clinical Cell Culture           | Bell Potter Securities                                   | Private placement & SPP (Underwritten)       | \$13.77            |
| Metabolic Pharmaceuticals       | ABN Amro Morgans   | Private placement                            | \$10.50            |
| Apollo Life Sciences            | Blackwood Capital  | Private placement                            | \$10.00            |
| Phosphagenics                   | BBY  | Private placement                            | \$10.00            |
| Avexa                           | -  | SPP  | \$9.75             |
| Prana Biotech                   | n/d  | Private placement                            | \$7.80             |
| Medical Monitors                | -  | Convertible notes & Private placement        | \$6.14             |
| Portland Orthopaedics           | Tolhurst Noall   | Private placement                            | \$6.00             |
| Evogenix                        | Lodge Partners   | Private placement                            | \$5.00             |
| Unilife Medical Solutions       | Inteq Ltd  | Redeemable Convertible Notes                 | \$4.70             |
| Clinuvel Pharmaceuticals        | n/d  | Private placement                            | \$4.67             |
| Biodiem                         | -  | Non-renounceable rights issue                | \$4.18             |
| Proteome Systems                |  | (underwritten) Private placement             | \$4.00             |
| ,                               | n/d  | ·  | ·                  |
| pSivida                         | n/d  | Private placement                            | \$3.70             |
| Somnomed                        | Findlay & Company  | Renounceable rights issue (Underwritten)     | \$3.50             |
| Select Vaccines                 | Shaw Corporate Finance                                   | Renounceable rights issue (Underwritten)     | \$3.31             |
| Cygenics                        | n/d  | n/d  | \$3.26             |
| Virax                           | Tricom Equities Ltd                                      | Rights Issue                                 | \$2.36             |
| Antisense Therapeutics          | Firebird Global Master Fund; PowerOne<br>Capital Markets | Private placement                            | \$2.34             |
| Phylogica                       | Cygnet Capital   | SPP  | \$2.25             |
| Ritract                         | DJ Carmichael  | Non-renounceable rights issue (Underwritten) | \$2.09             |
| Eastland Medical Systems        |  | Private placement                            | \$2.00             |
| Labtech Systems                 | n/d  | Private placement & SPP                      | \$1.87             |
| Occupational and Medical Innov. | -  | Convertible notes, loan & placement          | \$1.82             |
| Polartechnics                   | <del>-</del>   | SPP  | \$1.68             |
| Neuren Pharmaceuticals          | -  | SPP  | \$1.60             |
| Rockeby biomed                  | <del>-</del>   | Private placement & SPP                      | \$1.51             |
| Biolayer                        | -  | Convertible notes                            | \$1.30             |
| Ambri                           | Queensland BioCapital Funds (QIC)                        | Private placement                            | \$0.75             |
| Dia-B Tech                      | n/d  | Private placement                            | \$0.72             |
| Benitec                         | -  | Loan   | \$0.65             |
| Solagran                        | n/d  | Private placement                            | \$0.65             |
| -                               | .,,,,  | Total  | \$153.9            |
|                                 |  | IPOs   | \$37.3             |
| Total raised in Q4 2006         |  |  | \$191.2            |
| Total raised in Q3 2006         |  |  | \$183.1            |
| Total raised in Q2 2006         |  |  | \$183.0            |
| Total raised in Q1 2006         |  |  | \$70.0             |
| Total raised in 2006            |  |  | \$627.3            |

nies selecting this approach in the latest quarter compared to two in the previous quarter. Convertible note offerings are often very dilutive as accrued interest as well as the principal is often converted into shares. However, this approach can defer the immediate dilution that occurs with placements or rights issues.

### Outperformers

Benitec's share price posted the greatest price gain in the December quarter with an increase of 215%. However, this was off a very low base, with the stock moving from 2.6 cents to 8.2 cents, down significantly from a high of \$1.24 in November 2003. A likely motive for a renewed interest in Benitec might emanate for the acquisition of SirnaTherapeutics by Merck for US\$1.1 billion, in addition to the sub-licensing of Benitec's technology (ddRNAi) by Sigma-Aldrich to Pfizer for research purposes. A new management team and board might also have given investors increased confidence in the stock following several years of very poor management by the previous officers of the firm.

**Polartechnics** also saw its share price come back off a low base, and a long period in the wilderness, gaining 15.5 cents (163%) over the quarter to finish at 25 cents. New management is attempting to invigorate the company with a sales strategy focused on the Chinese and other Asian markets. Polatechnics has developed the Truscan product for screening for cervical cancer.

A third company to experience a strong price increase from low base that was reached after a substantial decline over two years was **USCOM**. Possible expectations of a change in management might explain this stocks increase from 42 cents to 95 cents in the December quarter. (A new CEO was appointed on January 9, 2007). USCOM is marketing a non-invasive cardiac output monitor.

# **Underperformers**

The worst performers for the quarter was **Healthlinx** and **Norwood Abbey**, which saw their share prices decrease by 57% for the quarter. Healthlinx is evaluating several biomarkers that have potential in the diagnosis of ovarian cancer. Slower than expected recruitment rates of patients supplying samples for the study is one explanation for the fall in share price. Norwood Abbey's loss can be attributed to a weakening financial position. At September 30, the company held cash assets of \$1.6 million, sufficient for less than two months operations, although the company holds a 20.5% stake in Norwood Immunology that is be worth \$20 million according Norwood Abbey.

### **IPOs**

There were three new listings in the December quarter, 2006. Point-of-care diagnostics technology company **Universal Biosensors** raised \$18.0 million, giving it an indicative capitalisation of \$64 million. The stock has performed well, increasing 124% by the end of the year, from its listing in mid-December. **Fermiscan Holdings** raised \$2.3 million and its stock also performed well, rising steeply by 247% from its re-admission date in late October (the company did a back-door listing through **Olympus Resources**). Fermiscan is commercialising the use of x-

ray diffraction of hair samples as screening test for breast cancer. The third company to list was **Probiotec**, a manufacturer of animal nutrition products, OTC pharmaceuticals and complementary medicines. Probiotec raised \$17 million, on the basis of an indicative capitalisation of \$45.5 million. The company's share price closed the year up a modest 14% from its offer price.

IPOs in Q4 2006

| Company                 | Code | Funds<br>Raised<br>(M) | Issue<br>price | Price<br>31/12/06 | Gain/<br>loss |
|-------------------------|------|------------------------|----------------|-------------------|---------------|
| Universal<br>Biosensors | UBI  | \$18.00                | \$0.50         | \$1.12            | 124%          |
| Probiotec               | PBP  | \$17.00                | \$1.00         | \$1.14            | 14%           |
| Fermiscan<br>Holdings*  | FER  | \$2.30                 | \$0.30         | \$1.04            | 247%          |

<sup>\*</sup> FER staged a backdoor listing through Olympus Resources

Bioshares

Bioshares Model Portfolio (12 Jan 2007)

| Company                   | Price (current) | Price added to |
|---------------------------|-----------------|----------------|
|                           |                 | portfolio      |
| Acrux                     | \$0.76          | \$0.83         |
| Alchemia                  | \$0.87          | \$0.67         |
| Bionomics                 | \$0.27          | \$0.210        |
| Cogstate                  | \$0.23          | \$0.18         |
| Cytopia                   | \$0.65          | \$0.46         |
| Chemgenex Pharma.         | \$0.75          | \$0.38         |
| Evogenix                  | \$0.77          | \$0.47         |
| IDT Australia             | \$2.06          | \$1.80         |
| Optiscan Imaging          | \$0.46          | \$0.35         |
| Metabolic Pharmaceuticals | \$1.02          | \$0.53         |
| Neuren Pharmaceuticals    | \$0.45          | \$0.70         |
| Peplin                    | \$0.86          | \$0.83         |
| Peptech                   | \$1.58          | \$1.31         |
| Phylogica                 | \$0.44          | \$0.42         |
| Prima Biomed              | \$0.062         | \$0.09         |
| Progen Industries         | \$5.65          | \$3.40         |
| Sirtex Medical            | \$2.86          | \$1.95         |
| Sunshine Heart            | \$0.25          | \$0.19         |
| Ventracor                 | \$1.02          | \$0.92         |

### **Portfolio Changes**

We will take some profits with Mesoblast and remove it from the portfolio at \$2.24

# The Australian Listed Life Sciences Sector

December 31, 2006: Capitalisation \$34.1 billion, 127 Companies

# **Bioshares Large Cap. Index**

| Company               | Code | Cap.<br>\$m | Principal Activities   | Change<br>Qtr | Price<br>31/12/06 |
|-----------------------|------|-------------|--|---------------|-------------------|
| CSL                   | CSL  | 11,938      | Manufactures pharmaceutical products including vaccines and human plasma fractions.          | 21%           | \$65.37           |
| Resmed Inc.           | RMD  | 4,813       | Manufactures diagnostic and treatment equipment for sleeping disordered breathing.           | 17%           | \$6.33            |
| Cochlear              | СОН  | 3,186       | Manufactures cochlear hearing implants.  | 9%            | \$58.00           |
| Sigma Pharmaceuticals | SIP  | 2,860       | Pharmaceutical manufacturing and wholesaling.  | 15%           | \$2.99            |
| Mayne Group           | MYP  | 2,607       | Operates generic pharmaceuticals manufacturing business and wholesale distribution business. | -5%           | \$4.07            |
| API                   | API  | 571         | Pharmaceutical wholesaler.   | 0%            | \$2.22            |

**Capitalisation Total** 

25,975

| Company                      | Code | Cap.<br>\$m | Principal Activities   | Change<br>Qtr | Price<br>31/12/06 |
|------------------------------|------|-------------|--|---------------|-------------------|
| Vision Systems               | VSL  | 627         | Manufactures and markets automated instruments and biochemical reagents for the detection of cancer and infectious diseases                  | 19%           | \$3.75            |
| Pharmaxis                    | PXS  | 527         | Marketing a lung function test, Aridol, and developing a treatment, Bronchitol, for bronchiectasis and COPD.                                 | 32%           | \$2.97            |
| Cellestis                    | CST  | 364         | Marketing a diagnostic for latent tuberculosis.  | 42%           | \$3.80            |
| Biota                        | ВТА  | 292         | Commercialised Relenza anti-flu drug and flu diagnostic kits. Now developing an improved version.  | 22%           | \$1.62            |
| Blackmores                   | BKL  | 288         | Manufactures vitamin, mineral and herbal supplements and skin & hair products in Australia and N.Z.  | 23%           | \$18.00           |
| Ventracor                    | VCR  | 284         | Developer of VentrAssist, an artificial heart assist device.   | 38%           | \$1.09            |
| Peptech                      | PTD  | 264         | Develops treatments for animal health care products using peptides.<br>Holds patent relating to ani-inflammatory compound.                   | 23%           | \$1.61            |
| Progen Industries            | PGL  | 263         | Developing oncology therapeutics, including an anti-angiogenesis compound.   | 102%          | \$5.94            |
| Novogen                      | NRT  | 253         | Developing analogues of naturally occurring phenolic hormones to treat cancers and other conditions.   | -16%          | \$2.60            |
| Metabolic<br>Pharmaceuticals | MBP  | 247         | Developing therapies for obesity, other metabolic diseases and pain.   | 92%           | \$0.83            |
| Clinuvel<br>Pharmaceuticals  | CUV  | 201         | Developing an analogue of the alpha-MSH protein as a photo-protective agent  | 58%           | \$0.73            |
| Mesoblast                    | MSB  | 198         | Developing therapies based adult stem cells called mesenchymal stem cells, with applications in cartilage regrowth and bone repair.          | 56%           | \$1.84            |
| Phosphagenics                | РОН  | 197         | Commercialising a drug delivery technology improving the delivery of vitamin E and existing pharmaceutical products through phosphorylation. | -8%           | \$0.34            |
| Peplin                       | PEP  | 162         | Developing a plant derived compound, PEP005, to treat non-melanocytic skin cancers and other systemic cancers such as leukemia.              | 30%           | \$0.88            |
| Sirtex Medical               | SRX  | 151         | The company's core technology uses radioactive particles to irradiate tumours in the liver. Approved for use in most major regions.          | 17%           | \$2.70            |

| Company                         | Code | Cap.<br>\$m | Principal Activities  | Change<br>Qtr | Price<br>31/12/06 |
|---------------------------------|------|-------------|---|---------------|-------------------|
| Universal Biosensors*           | UBI  | 143         | Development, manufacture and commercialisation of a range of in vitro diagnostic tests for point-of-care use.                                 | 12%           | \$1.12            |
| GenePharm<br>Australasia        | GAA  | 139         | An emerging generic pharmaceutical manufacturer and distributor.  | -9%           | \$1.00            |
| Life Therapeutics               | LFE  | 137         | R&D of industrial and research grade protein, DNA and viral separation equipment. Acquired Seralogicals plasma therapeutics business in 2004. | -9%           | \$1.39            |
| Fermiscan Holdings              | FER  | 132         | Commercialising the use of x-ray diffraction to aid in the screening of breast cancer.  | 247%          | \$1.04            |
| Genetic Technologies            | GTG  | 127         | Provides DNA paternity testing services and holds broad patents relating to the use of non-coding DNA.  | -1%           | \$0.35            |
| Heartware                       | HTW  | 125         | Developing a mechanical heart pump (LVAD).  | -16%          | \$0.67            |
| Alchemia                        | ACL  | 114         | Commercialising new solid phase carbohydrate synthesis technology. First product, a synthetic heparin, to be launched by partners in 2008.    | 24%           | \$0.81            |
| Acrux                           | ACR  | 104         | A Pooled Dev. Fund commercialising a drug delivery technology that uses sunscreen penetration enhancers to aid transdermal drug delivery.     | -4%           | \$0.76            |
| Southern Dental<br>Industries   | SDI  | 100         | Manufacture & distribution of amalgam (fillings) & other dental materials and product R&D.  | 13%           | \$0.85            |
| Evogenix                        | EGX  | 100         | Commercialising a next generation antibody optimisation and humanisation technology.  | 61%           | \$0.74            |
| pSiVida                         | PSD  | 98          | Developing and marketing drug delivery technologies, with a special focus opthalmic applications.   | -21%          | \$0.25            |
| ChemGenex<br>Pharmaceuticals    | cxs  | 91          | Genomics/theranostics company with projects in obesity, diabetes, oncology and hypertension.  | 25%           | \$0.60            |
| Institute of Drug<br>Technology | IDT  | 87          | Manufacturer of pharmaceutical ingredients to international standards for major pharmaceutical groups.  | 26%           | \$2.03            |
| Starpharma Holdings             | SPL  | 79          | Developer of pharmaceutical applications of chemical scaffolds known has 'dendrimers'.  | -2%           | \$0.47            |
| CathRx                          | CXD  | 76          | Developing novel modular cardiac catheters for the diagnosis and treatment of abnormal heart rhythms  | 92%           | \$2.50            |
| Avexa                           | AVX  | 74          | Developing antiviral therapies for HIV and Hepatitis B and a novel antibiotic.  | 30%           | \$0.30            |
| Lipa Pharmaceuticals            | LIP  | 73          | A contract manufacturer of complementary healthcare products.   | 7%            | \$0.78            |
| Apollo Life Sciences            | AOP  | 72          | Developing portfolio of protein drugs to treat various disorders and diseases using human proteins and treatment of effects of ageing.        | 24%           | \$0.46            |
| Portland Orthopaedics           | PLD  | 65          | Developer, manufacturer and marketer of surgical hip and knee implants  | 25%           | \$0.42            |
| Prana Biotechnology             | PBT  | 59          | Developing drugs to treat CNS diseases such as Alzheimer's and Parkinson's.   | -13%          | \$0.39            |
| Phylogica                       | PYC  | 56          | Developing phylomer (protein fragment shapes) compound libraries for use in human therapeutics.   | 18%           | \$0.46            |
| ITL                             | ITD  | 55          | Develops and distributes medical devices such as safety equipment to prevent needle stick injuries and sterile preparation kits.              | 41%           | \$0.52            |
| Solagran                        | SLA  | 54          | Developing compounds called Bioeffectives, designed in Russia, and have medicinal properties.   | 86%           | \$0.35            |
| Ellex Medical Lasers            | ELX  | 54          | Develops, manufactures and markets solid state ophthalmic lasers used to treat secondary cataracts and retinal disorders.                     | 14%           | \$0.88            |

| Company                      | Code | Cap.<br>\$m | Principal Activities   | Change<br>Qtr | Price<br>31/12/06 |
|------------------------------|------|-------------|--|---------------|-------------------|
| Probiotec*                   | PBP  | 53          | Manufacturer, marketer and distributor of a range of OTC pharmaceuticals, complementary medicines and speciality ingredients           | -1%           | \$1.14            |
| Neuren<br>Pharmaceuticals    | NEU  | 53          | Developing therapeutics in area of neuroprotection and metabolic disorders.  | -4%           | \$0.40            |
| Clinical Cell Culture        | CCE  | 49          | Development of skin treatment products for use in burns and other skin damage. Lead product is CellSpray.                              | 17%           | \$0.12            |
| Optiscan Imaging             | OIL  | 48          | Manufacture of confocal microscopes for clinical diagnosis including endoscopes through alliance with Pentax.                          | 6%            | \$0.48            |
| Cytopia                      | CYT  | 47          | Small molecule drug development company. Has PDF status.   | -9%           | \$0.64            |
| Scigen                       | SIE  | 46          | Developer and manufacturer of biopharmaceuticals. Company is based in Singapore and was spun out of Sonic Healthcare in 2002.          | 8%            | \$0.08            |
| Bionomics                    | BNO  | 45          | Developing drugs to treat cancer and CNS diseases, and has also developed a gene diagnostic for epilepsy.                              | 38%           | \$0.24            |
| Proteome Systems             | PXL  | 44          | Developing proteomics hardware and software for drug development and diagnostic applications.  | -11%          | \$0.29            |
| Sunshine Heart               | SHC  | 43          | Developing the C-Pulse heart assist device. The C-Pulse wraps around and compresses the aorta, increasing blood flow through the body. | 69%           | \$0.25            |
| USCOM                        | UCM  | 36          | Marketing a non-invasive heart output function monitor.  | 126%          | \$0.95            |
| Medical Developments         | MVP  | 36          | Commercialising the Penthrax inhaler for temporary pain relief. Used widely in ambulances across Australia.                            | 34%           | \$0.63            |
| Giaconda                     | GIA  | 35          | Developed novel (patented) combinations of registered drugs for the treatment of gastrointestinal disorders.                           | 71%           | \$0.48            |
| Viralytics                   | VLA  | 34          | Developing a cancer treatment based on the application of viruses (oncolytic virus technology).  | 15%           | \$0.15            |
| Imugene                      | IMU  | 33          | Developing animal products such as antibiotic alternatives used in the stock feed industry using a vaccine and gene therapy approach.  | 122%          | \$0.26            |
| Unilife Medical<br>Solutions | UNI  | 33          | Developer of retractable syringes.   | 18%           | \$0.23            |
| Brainz                       | BZI  | 31          | Develops non-invasive brain monitors for the detection of brain injury designed for use at the patient's bedside. A NZ company.        | 4%            | \$0.52            |
| Avastra                      | AVS  | 30          | Consolidating sleep disorder centres in the USA  | 29%           | \$0.36            |
| Polartechnics                | PLT  | 30          | Develops and commercialises medical instruments to diagnose pre-<br>cancer and cancer, in particular cervical cancer and melanomas.    | 163%          | \$0.25            |
| Anadis                       | ANX  | 29          | Specialises in R&D of bovine colostrum products for therapeutic use in animals and humans.   | 18%           | \$0.30            |
| Agenix                       | AGX  | 29          | Manufacture and sale of diagnostics and animal health products.  Developing Thromboview, a blood clot diagnostic imaging agent         | -4%           | \$0.14            |
| Brain Resource Corp          | BRC  | 24          | Development and commercialisation of functional brain analysis techniques.   | 20%           | \$0.27            |
| IM Medical                   | IMI  | 24          | Markets the Intelliheart Cardiovascular Diagnostic System  | 79%           | \$0.03            |
| Living Cell<br>Technologies  | LCT  | 23          | Developing cell therapies for diabetes, haemophilia and Huntington's disease.  | -5%           | \$0.19            |
| Cygenics                     | CYN  | 23          | Developing tools used in stem cell proliferation, and conducts a tissue banking operation.   | -6%           | \$0.29            |
| Compumedics                  | СМР  | 22          | Develops, manufactures and markets sleep diagnostic and monitoring equipment.  | 45%           | \$0.16            |

| Company                            | Code | Cap.<br>\$m | Principal Activities   | Change Qtr | Price<br>31/12/06 |
|------------------------------------|------|-------------|--|------------|-------------------|
| Clovercorp                         | CLV  | 21          | Development and production of omega-3 food additives from tuna oil.  | -4%        | \$0.13            |
| Chemeq                             | CMQ  | 21          | Manufactures and markets antimicrobials for use in livestock industry.   | -19%       | \$0.21            |
| Antisense Therapeutics             | ANP  | 21          | Developing antisense compounds to treat multiple sclerosis and acromegaly.   | 38%        | \$0.04            |
| Advanced Ocular<br>Systems         | AOS  | 21          | Developing a steroid - triamciolone acetomide - for treatment of back of the eye diseases.   | 50%        | \$0.11            |
| Biotron                            | BIT  | 21          | Developing anti-viral therapies and cancer screening technologies.   | -4%        | \$0.23            |
| Biodiem                            | BDM  | 20          | Has partnered nasal flu vaccine and is developing other technologies emanating from the St Petersberg Instit. of Exp. Medicine, Russia   | 8%         | \$0.29            |
| Eastland Medical<br>Systems        | EMS  | 20          | Developing retractable syringes and other surgical products.   | 14%        | \$0.13            |
| PanBio                             | РВО  | 20          | Develops and markets vector born infectious diseases diagnostic eg Dengue fever.   | 34%        | \$0.32            |
| Atcor Medical                      | ACG  | 20          | Markets the SphygmoCor device, a noninvasive technology that provides information regarding the functioning of the cardiovascular system | 0%         | \$0.20            |
| Virax Holdings                     | VHL  | 18          | Bio-pharmaceutical R&D company developing a therapeutic and prophylactic vaccine for HIV.  | 12%        | \$0.19            |
| Biosignal                          | BOS  | 17          | Developing compounds that interrupt the colonisation of bacteria. Applications in contact lenses and anti-fouling for marine paints.     | -8%        | \$0.17            |
| Occupational & Medical Innovations | OMI  | 16          | Developing safety devices used in the healthcare industry, including safety syringes.  | 29%        | \$0.51            |
| Benitec                            | BLT  | 15          | R&D company focusing on gene silencing, specifically DNA delivered RNAi, technology.   | 215%       | \$0.08            |
| Labtech Systems                    | LBT  | 15          | Developing the MicroStreak technology for the automation of microbiology laboratory processing   | 11%        | \$0.20            |
| Avantogen                          | ACU  | 14          | A developer of various cancer therapeutics.  | 0%         | \$0.05            |
| Narhex Life Sciences               | NLS  | 14          | Developed a low cost protease inhibitor for treatment of HIV in Chinese market.  | 5%         | \$0.08            |
| Colltech                           | CAU  | 14          | Has developed a novel technology for the extraction of collagen from sheepskins.   | 0%         | \$0.10            |
| Bone Medical                       | BNE  | 13          | Developing treatments for bone and joint degenerative diseases such as arthritis and osteoporosis.                                       | -23%       | \$0.20            |
| Medec                              | MAA  | 13          | Developing energy medicine products, including the Medec Pulse to alleviate localised pain.  | -27%       | \$0.18            |
| Ambri                              | ABI  | 13          | Developing rapid diagnostic tests bases on mimicking natural biological sensing processes  | 63%        | \$0.06            |
| Medical Monitors                   | MDM  | 12          | Develops and manufactures cardiac monitoring and diagnostic devices.   | -14%       | \$0.16            |
| Rockeby Biomed                     | RBY  | 12          | Research, development and marketing of rapid testing technologies for infectious diseases in animals and humans.                         | 47%        | \$0.03            |
| Norwood Abbey                      | NAL  | 11          | A drug delivery company that uses laser skin ablation technology. Has investment in Norwood Immunology.                                  | -57%       | \$0.06            |
| Tissue Therapies                   | TIS  | 11          | Commercialising growth factors for spray-on skin product, other wound healing and in research and industrial cell growth applications.   | 23%        | \$0.54            |
| Somnomed                           | SOM  | 10          | Commercialising an oral device for the treatment of sleep apnea and snoring.   | -30%       | \$0.02            |

| Company                              | Code | Cap.<br>\$m | Principal Activities   | Change Qtr | Price<br>31/12/06 |
|--------------------------------------|------|-------------|--|------------|-------------------|
| PharmAust                            | PAA  | 10          | Its subsidiary, Epichem, provides chemistry services to biotech and pharma companies. Developing a drug discovery program.                 | 9%         | \$0.12            |
| RiTract                              | RTL  | 10          | Developing a safety needle and needle sleeve.  | -33%       | \$0.10            |
| Probiomics                           | PCC  | 10          | A probiotics company that has launched a range of products to aid management of irritable bowel syndrome, diarrhoea and intestinal health. | 18%        | \$0.06            |
| Prima Biomed                         | PRR  | 10          | Commercialising research from the Austin Research Institute, Melbourne, relating to auto-immune diseases and cancer.                       | -15%       | \$0.05            |
| Cogstate                             | CGS  | 10          | Marketing cognitive performance diagnostic products.   | 10%        | \$0.22            |
| Stirling Products                    | STI  | 10          | Commercialising a production animal growth promotant and meat finisher.  | 27%        | \$0.10            |
| Biolayer                             | BLS  | 9           | Developer of a biological coatings technology that can applied to immunoassays, bio-separations, drug delivery and other medical devices.  | -7%        | \$0.13            |
| Medical Therapies                    | MTY  | 9           | Developing therapies to treat inflammatory diseases, using copper- and zinc- indomethacin  | -30%       | \$0.17            |
| Solbec<br>Pharmaceuticals            | SBP  | 9           | Developing plant-based compounds for the treatment of melanomas and asbestos related lung cancers.   | -34%       | \$0.04            |
| Resonance Health                     | RHT  | 8           | Marketing the FerriScan technology, a non-invasive tool for measuring liver iron levels  | 0%         | \$0.02            |
| BioMD                                | BOD  | 8           | Acquired an interest in a tissue engineering technology company, Celxcel.  | 15%        | \$0.11            |
| Genesis Research & Development Corp. | GEN  | 8           | Developing RNAi based therapeutics. Interests in agricultural biotechnologies.   | 38%        | \$0.28            |
| Visiomed Group                       | VSG  | 7           | Commercialising a device, the Funhaler, used to aid asthma medication for children.  | -33%       | \$0.01            |
| Medigard                             | MGZ  | 7           | Developed retractable syringe technology and other safety medical products.  | 11%        | \$0.10            |
| Biopharmica                          | BPH  | 7           | Managing cancer treatment and detection and bacterial DNA diagnostic projects. Portfolio investment approach.                              | -29%       | \$0.11            |
| NeuroDiscovery                       | NDL  | 7           | Provides electrophysiogy services to biotech and pharma, and is developing range of compounds for treating neuropathic pain.               | 3%         | \$0.18            |
| Dia-B Tech                           | DIA  | 6           | Developing therapeutics and diagnostics in the area of diabetes.   | 15%        | \$0.06            |
| Eqitx                                | EQX  | 6           | Developing therapeutic drugs for chronic diseases and disorders affecting the aged patients.   | 0%         | \$0.13            |
| Cryosite                             | CTE  | 6           | Building a business in the provision of services for storing umbilical cord blood through cryopreservation and ultracold technologies.     | 13%        | \$0.17            |
| BioProspect                          | вро  | 6           | Developing insecticides from naturally occurring molecules   | 25%        | \$0.02            |
| Inctive                              | ICV  | 6           | Development of compounds to to treat cancers and auto-immune diseases.   | -23%       | \$0.14            |
| KarmelSonix                          | KSX  | 5           | Respiratory and pulmonary devices company. Acquired technologies from PulmoSonix and Karmel Medical Acoustics Technologies.                | 38%        | \$0.05            |
| Analytica                            | ALT  | 5           | A medical devices company that has developed retractable syringe.  | -13%       | \$0.03            |
| Select Vaccines                      | SLT  | 5           | Development and commercialisation of infectious diseases diagnostics, vaccines and therapeutics specialising in area of hepatitis diseases | -48%       | \$0.02            |
| Eiffel Technologies                  | EIF  | 4           | Developing Super Critical Fluid technology to improve the extraction process of compounds from raw materials.                              | 42%        | \$0.02            |

| Company    | Code | Cap.<br>\$m | Principal Activities  | Change Qtr | Price<br>31/12/06 |
|------------|------|-------------|---|------------|-------------------|
| Acuron     | AVP  | 3           | Development and marketing of wound-care products  | 15%        | \$0.02            |
| Healthlinx | HTX  | 3           | Detecting novel functions of known and new protein and peptides for therapeutic purposes. | -57%       | \$0.02            |

**Capitalisation Total** 

8,026

Price change for FER, PBP and UBI are from close on first day of listing

# **Listed Biotech Investment Funds**

| Company            | Code | Cap.<br>\$m | Principal Activities   |     | Price<br>31/12/06 |
|--------------------|------|-------------|--|-----|-------------------|
| Circadian          | CIR  | 62          | Management and funding of R&D projects with Australian and NZ universities. Holds investments in Optiscan, Metabolic Pharmaceuticals, Antisense Therapeutics and Avexa.                          | 11% | \$1.56            |
| Biotech Capital    | втс  | 35          | A Pooled Development Fund investing in unlisted Australian biotech companies or in public biotechs, including Starpharma, Prima Biomed, Clinical Cell Culture, Phylogica and Stem Cell Sciences. |     | \$0.40            |
| Xceed Biotech      | XBL  | 23          | Holds an 60% stake in Polynovo, which is developing biodegradable polyurethane-based polymers. Also operates Boron Molecular, a chemistry services company.                                      |     | \$0.20            |
| Premier Bionics    | PBI  | 15          | A listed venture capital group that invests in medical device companies but is expected to focus wholly on its Medec Vision investment in the near future.                                       |     | \$0.23            |
| Genesis Biomedical | GBL  | 8           | Venture capital company with an investment in a fertility diagnostic   |     | \$0.05            |

**Capitalisation Total** 

135

Capitalisation Total - All Indexes

34,137

# **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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