

In this edition...

This edition of Bioshares has a strong diabetes theme. Commencing with Living Cell Technologies, we revisit that company's progress with its porcine islet cell transplant product. Device maker ASDM is about to start a second trial of a device that can save the legs of diabetics from amputation. Universal Biosensors has seen its first product, a blood glucose monitor, launched by Lifescan. However, industry pressures to develop even better monitors may see the two companies embark on a next generation product.

We update readers on sales trends at Atcor Medical and suggest that the Strides Arcolab bid for Ascent Pharmahealth is a poor outcome for many shareholders.

The Editors

Companies Covered: ACG, AMT, APH, LCT, UBI

	Bioshares Portfolio
Year 1 (May '01 - May '02)	21.2%
Year 2 (May '02 - May '03)	-9.4%
Year 3 (May '03 - May '04)	70.0%
Year 4 (May '04 - May '05)	-16.3%
Year 5 (May '05 - May '06)	77.8%
Year 6 (May '06 - May '07)	17.3%
Year 7 (May '07 - May '08)	-36%
Year 8 (May '08 - May '09)	-7.3%
Year 9 (May '09 - Current)	61.5%
Cumulative Gain	214%
Av Annual Gain (9 yrs)	19.9%

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Bioshares

23 April 2010

Edition 356

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

Living Cell Technologies Finally Makes Clinical Headway with Novel Diabetes Treatment

Most people know someone who has Type 1 diabetes and some may even have lost relatives or friends to this chronic disorder. People who live with diabetes have a 10 times greater rate of blindness compared to the general population, have a 20 times greater chance of heart disease and the chance of having amputation during the life is 40 times higher. It's an emotional issue, with the disorder often diagnosed in childhood and remains a lifelong affliction with no cure and only chronic maintenance of the disorder.

Living Cell Technologies (LCT: \$0.295) was founded by the late David Collison from New Zealand, looking for a cure for his son who was diagnosed with Type I diabetes. The company has raised \$60 million since inception. The idea supporting the company is to implant porcine islet cells into people from piglets produced from a very pure and isolated pig herd in New Zealand.

After many years of discussions with health authorities, the company has now received the go ahead from Russia, where an eight patient trial has been successfully completed, and from New Zealand, where four patients in a Phase I/II trial have been implanted with the porcine islet cells. The company has received approval to expand this trial to a further four patients at a higher dose of the cells. The implant procedure is relatively straightforward with patients required only to stay in hospital overnight.

The aim is to conduct a global clinical trial program in 2011 that will involve between 40-50 patients that would take the form of a pivotal trial and would allow a registration package of the treatment to be ready for submission in 2012. The eight patients in the New Zealand trial will be part of the pivotal study.

Russian Trial Results

The trial in Russia involving eight patients with Type-1 diabetes has been completed successfully with results released earlier this month. In six of these patients, daily insulin requirements was reduced by between 13%-100% after one dose. The 100% reduction was recorded still at three months, and after six months the daily insulin requirement of that patient remained 32% lower.

One patient, who had received three implants in the trial, had reduced his/her daily insulin requirements by 82% after two years from the first implant. There were no serious adverse effects with some abdominal bloating recorded in two patients.

On another measure, HbA1c levels, which is a surrogate measure for average glucose levels over the preceding three months, fell by 0.2% - 2.8% in six of the eight patients after one implant at six months. In people who do not have diabetes, their HbA1c levels are between 4%-6%, meaning that 4%-6% of red blood cells have glucose attached to them. Red blood cells live for around 120 days, which is why this is a good surrogate measure of glucose levels over this period.

Good diabetes control is considered when HbA1c levels are less than 7%. Over 8% is too high, and over 10% is considered unstable diabetes, where the person cannot get a heavy vehicle motor licence. At the top end of results, the 2.8% drop then, potentially from an unstable disease of around 10% to close to 7%, is precisely the type of result this treatment is aimed at.

The patients in this trial all had their diabetes well managed before the trial, with a requirement for each patient to have been on an insulin pump for three months leading into the trial. The current New Zealand trial is quite different, with patients having unstable disease that is being poorly controlled.

NZ Trial - Treatment Directed at Patients with Unstable Diabetes

The LCT treatment, called Diabecell, is unlikely to be directed towards patients who have well managed diabetes. Where the potential treatment will be of most benefit is those people who have unaware hypoglycemia, where a sharp drop in blood glucose levels is not accompanied by the standard symptoms such as sweating and anxiety prompting the person to check their glucose levels, and can result in seizures, a coma or even death. According to LCT chairman David Brookes, 8% of road fatalities have been linked to hypoglycemia.

The New Zealand trial is involving patients whose diabetes is considerably more unstable than those in the Russian trial. The benefit of the Diabecell treatment in the New Zealand trial should be more apparent.

The Diabecell treatment does not offer a cure or even cessation of insulin treatment, however this has occurred in some patients in the Russian trial for a period as mentioned above. The important benefit of this treatment is that it potentially modulates the extreme fluctuations in glucose levels in patients with diabetes, making the disorder more manageable and reducing dangerous events.

Commercial Payoff and Timetable

As mentioned, LCT plans to complete its pivotal trial in 2012 that may allow it to then register the product. Each transplant will cost around \$150,000 and the company estimates that around 80 treatments will be required a year to break even, although approximately \$8 million a year in funding would be required for three years to get to this point. At 100 treatments a year, the company estimates it could generate a net income of \$3.7 million, from 250 implants it could generate \$21 million and at 1,000 implants it could generate an estimated net income of around \$110 million.

Market for Diabecell

Diabecell is being targeted at those people who have unstable diabetes. These are people whose diabetes is being poorly managed, with HbA1c levels presumably around the 10% mark.

In Australia between 2%-3% of people with Type 1 diabetes experience unaware hypoglycemia. There are 100,000 patients with Type 1 diabetes in Australia alone, which represents a target market of between 2000-3000 people for this treatment. Treating only 1,000 patients a year would be expected to generate a net income for

LCT of around \$110 million. The market size is definitely not the issue with this potential product.

There are also patient groups, where complications such as having undergone a renal transplant, makes managing Type 1 diabetes extremely difficult with existing medications.

Hurdles and Risks with LCT

There are a number of hurdles for LCT with the commercialisation of its treatment. The first is that this is a xenotransplantation therapy. The concern remains that pig viruses could be transferred to humans (porcine endogenous retroviruses or PERVs) through this treatment.

Diabetes has been well controlled in the past with porcine-derived insulin, with prior to 1980 all insulin being sourced from pigs. Some patients even preferred the porcine insulin over the recombinant insulin that is in use today. However, the difference is that these are living pig cells that are being encapsulated and implanted into people. To date there has been no evidence of transmission of these porcine viruses.

In 2008, the Changsa Communiqué was released, which proposed guidelines and recommendations to the **World Health Organisation** for regulatory requirements of clinical trials involving xenotransplantation. The document recommended that the WHO should 'have a dedicated resource to develop and support a plan for global action for xenotransplantation', that the WHO should 'promote future equitable access to successful xenotransplantation' and that 'because of the community risk, in proposed clinical trials of xenotransplantation there should be a high expectation of benefit to balance the risk'.

The Changsa Communiqué acknowledged that xenotransplantation trials need to be effectively regulated because of the wider community risks, namely 'the risk of developing.....novel infections which could infect not just the transplant recipient but also.....the wider population.'

Another hurdle for LCT is that between 10-20 piglets are required to harvest the necessary islet cells for the treatment of one person. How long those cells will be effective for is still being investigated. One of the longer term goals for the company is to achieve a more sustained effect of the implanted islet cells, improving the efficiency of the adhesion of the alginate coated islet cells when implanted, and the vascularisation around the implanted cells to improve supply of insulin into the blood stream. These improvements could reduce the number of piglets per transplantation considerably and deliver a longer lasting effect.

To bring Diabecell to market will likely require regulatory approval to conduct some studies outside of New Zealand in at least two other countries, potentially in Australia and in the South American region. The path in Australia has had one obstacle removed, with the NHMRC lifting its five year ban for xenotransplantation in December last year.

– Cont'd over

A clear clinical benefit will be required to be shown that justifies the xenotransplantation procedure to be adopted on a wider commercial level. And significant further funds will need to be raised to make Diabecell a commercial success.

Competing Diabetes Technologies

Human Donor Organs

The transplant of pancreatic islet cells from human donor organs was successfully reported in 2000 under a procedure called the Edmonton Protocol. After five years, only 10% of recipients remained free from insulin use, however similar to the Diabecell treatment, patients were able to reduce their insulin needs, achieve better glucose stability and reduce hypoglycaemic events. The treatment lasts on average up to around three years.

However the problems with human transplants is the shortage of donor organs. Two donor organs are required per patient, there needs to be a donor patient suitability, with only around one in 12 donors suitable for a particular patient, and chronic immune suppression with pharmaceutical treatment is required. LCT has resolved the immune suppression issue by encapsulating the cells with an alginate product, which in itself is a potentially valuable asset. To date we understand 17 such human transplants have been conducted in Australia.

Embryonic Stem Cells

The **California Institute for Regenerative Medicine** (CIRM) was formed in 2004 with US\$3 billion of funding for embryonic stem cell and other biomedical research. It is the largest stem cell research fund in the world and is headed up by Australian stem cell researcher, Professor Alan Trounson. In very much the same way that the late David Collison created LCT, Californian real estate developer Robert Klein was also looking to find a cure for his son who has Type 1 diabetes. Klein is the Chairman of CIRM and helped write and finance this stem cell initiative. To date CIRM has allocated more than US\$1 billion of its stem cell research funding.

In February this year, Trounson was quoted as saying he believes a cure for diabetes will come in a little over a decade through the use of embryonic stem cells. To date, preclinical research in mice has shown human embryonic stem cells can be successfully transformed into insulin producing cells.

Adult Stem Cells

Late last year Melbourne biotech **Mesoblast** showed that in a preclinical mouse model, its adult stem cells significantly increased blood insulin levels and reduced blood glucose levels through the restoration of a damaged pancreas. This treatment could potentially deliver a treatment for Type 2 diabetes, correcting the imbalance between insulin-producing beta cells (which lowers glucose in the blood) and glucagon-producing alpha cells (which increase glucose levels). That these cells are not recognised by the immune system is also a big bonus.

Also using adult stem cells, in 2007, results from a trial involving 15 people with Type 1 diabetes was very successful using autologous hematopoietic stem cell transplantation. Eleven of the 15 patients were able to stop all insulin use immediately with the

effect sustained at the time the work was published in the *Journal of the American Medical Association*. The work was conducted by Richard Burt from **Northwestern University** in Chicago and Julio Voltarelli from the **University of Sao Paulo**, Brazil.

Summary

It is now been 23 years since LCT started developing the porcine islet transplant technology. Clinical studies are showing clear patient benefit from treatment with Diabecell. Commercialisation of the technology now appears within reach if all goes well, with the company looking to complete its pivotal study in 2012, which is an ambitious target.

The Diabecell technology offers a unique treatment to a disorder that remains in some cases very poorly managed with dangerous short and long term health implications. Managing the regulatory hurdles and wider health concerns around xenotransplantation remains a significant risk for the company.

LCT is capitalised at \$80 million. It had \$5.5 million in cash at the end of last year and has been awarded a grant from the New Zealand Government of NZ\$4 million over the next two years to develop the Diabecell technology for Type 1 diabetes.

Bioshares recommendation: **Speculative Hold Class C**

Bioshares

UBI Update

Now that **Johnson & Johnson's Lifescan** business unit is rolling out the first product, the Verio One Touch blood glucose test meter and strips), developed and manufactured under its master services and licensing agreement with Universal Biosensors (UBI: \$1.60), Rowville-based UBI is increasing its focus on its next suite of point-of-care devices.

Lifescan launched the Verio One Touch in the Netherlands in January 2010. UBI received a \$17.7 million milestone payment when the product received marketing clearance late in 2009. This has enabled UBI to confidently move ahead on developing its C-reactive protein and its D-Dimer test platforms.

Why UBI and Lifescan Delayed Development

The Verio product was targeted for an earlier launch possibly in the first half of 2009. Our assessment is that Lifescan and UBI halted that plan in order to develop a glucose testing monitor that could clearly discriminate between glucose and other types of sugars, such as maltose, galactose and xylose. Glucose test strips that utilize glucose dehydrogenase pyrroloquinoline quinine (GDH-PQQ) can react with such non-glucose sugars and lead to false readings, which in turn could lead to hypoglycemia and potentially death. A number of therapeutic products including several immunoglobulin products contain non-glucose sugars as does the drug Orencia. The FDA has now issued warnings against the GDH-PQQ class of strips.

– Cont'd on page 6

Atcor Medical – Double Digit Growth Expected to Return

Service provider companies to the pharmaceutical industry have experienced difficult trading conditions, particularly in the US, over the last 12 months as a result of the global financial crisis and also uncertainties arising from healthcare reform in the US.

Conditions in the US appear to be clearing for Atcor Medical (ACG: \$0.14). Two days after the US healthcare bill was signed into law last month, Atcor Medical announced the signing a US\$0.95 million contract with one of its pharmaceutical customers.

Atcor sells the central blood pressure testing product, called Sphygmocor, which has become the gold standard for this type of test. The standard cuff blood pressure assessment provides limited information regarding a person's cardiovascular health status. Central blood pressure measurement allows arterial stiffness to be accurately tested in a non-invasive way.

In October last year, results from a 2,405 person study over 5.6 years showed that people with a central blood pressure above 50mmHG (mercury) were 70% more likely to experience a cardiovascular event than people with a central blood pressure less than 31mmHG. No similar predictive relationship was found with measuring cuff pressure.

This test is being used by pharmaceutical companies in the development of cardiovascular drugs and also in trials for COPD and rheumatoid arthritis. Atcor has accessed only around 5% of the addressable pharmaceutical trials market which is worth around \$100 million a year. Pharmaceutical sales contribute to between 50%-60% of overall sales and are the key short-term driver of sales.

The remaining revenue comes from sales to researchers and also specialists who use the test in a clinical setting, with the company looking to expand use into the primary care market once it has gained firm adoption by specialist groups. The company is look-

ing to have its test covered under a CPT coding which would see far better reimbursement from insurers. A filing is expected for CPT coverage by November this year. It is currently reimbursed under a miscellaneous code.

In the clinical trial setting, the two uses for the test are as a safety marker, to prevent cardiovascular associated drug deaths as seen with the Vioxx arthritis drug. It could also be used as a marker of efficacy in cardiovascular trials. Some hypertension treatment drugs have shown to have the same effect on cuff pressure but clear differences on reducing central pressure (arterial stiffness).

The company's business model does not include sales of consumables with the Sphygmocor system, which sells for a list price of \$20,000. However, the company generally has warranty agreements in place, which generate annual revenue of around \$2,500 per year. For clinical trials, the produced is generally leased to the pharmaceutical company. Atcor also sells updates, such as software upgrades (a new upgrade due to be released shortly), and expects to sell five year product upgrades to existing users. Its current installed base is 2,100 units worldwide.

Financials

In the first half of this year, Atcor's sales fell 13% in constant currency terms to \$4.4 million. It recorded a net loss of \$1.2 million in the half compared to a profit of \$180,000 in the previous corresponding period. The company is forecasting a return to double digit sales growth over the next 15 months. In the March quarter, receipts from customers were \$1.9 million with a net operating cash outflow of \$202,000.

Atcor is capitalised at \$14 million and had \$1.7 million in cash at the end of March.

Bioshares recommendation: **Speculative Buy Class A**

ASDM to Commence Second PAD Trial

Australian Surgical Design and Manufacture (ASDM) (AMT: 54 cents) has announced a second trial of the novel Peripheral Access Device, a product over which it has exclusive world-wide manufacturing rights. The product is owned by **Allvascular**. ASDM has elected to fund clinical development of the product.

The device and its pump unit are used to repressurise blood flowing into a limb at risk of amputation. The higher pressure of the re-directed blood works to stimulate new blood vessel growth, increase blood flow to blood vessels in the periphery of the limb being treated and decrease pain. The process is termed Hypertensive Extracorporeal Limb Perfusion (HELP).

The PAD is registered with the Therapeutic Goods Administration as a Class IIA device suitable for, for example, the targeting of cancer drugs in specific regions of the body. The product has also received CE mark certification. It yet to be approved for HELP therapy.

This second trial will enrol 40 patients, involve seven surgeons, led by surgeon/inventor Rodney Lane and at a number of hospitals in Sydney, but commencing first at **Dalcross Private Hospital**. The devices will be implanted for a maximum of 28 days. The perfusion will take place for 24 hours, and be repeated every second day.

The primary endpoint of the trial is determine the safety and efficacy of the device in preventing major limb amputation, observing for serious adverse events such as minor amputation, significant infection, haematoma or bleeding, thrombosis and full amputation. The time period for evaluation is six months from the date of the explantation of the device. The second endpoint of the trail is to evaluate relief of symptoms of peripheral vascular disease.

The development of the device has been driven by the increasing incidence of diabetes, for which a complication is peripheral vascular disease (PVD) which itself may end up being treated with

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Poor Outcome for Many Ascent Pharmahealth Shareholders as Strides Arcolab Considers Bid for Outstanding Shares

Generic pharmaceutical group Ascent Pharmahealth (formerly Genepharm Australasia) (APH: 31 cents) has received an 'indicative proposal' from its majority shareholder, **Strides Arcolab**, to acquire the remaining shares in APH. The non binding proposal is at 35 cents a share, which is a 54% premium to the three month volume weighted average price. The bid values APH at \$87 million.

In February 2008, APH effectively conducted a reverse merger, acquiring the assets of Strides Asian and Australian operations. In return, Strides Arcolab has emerged with 57% ownership of APH.

The transformation of APH occurred in 2006, when it acquired the generic pharmaceutical business of **Douglas Pharmaceuticals Australia** in a cash transaction, valuing Douglas at \$70 million. The generic pharmaceutical landscape has changed considerably

in Australia over the last four years, with low cost generics from overseas flooding the market. Investors who supported the Douglas acquisition at \$1.00 a share may not be happy with the proposed outcome of a 35 cent per share acquisition.

Sigma Pharmaceuticals has also been hit hard with the changing landscape of the generics industry in Australia. It recently booked a \$424 million write down of goodwill, largely as a result of its purchase of the Arrow Pharmaceuticals generic business in 2005 for around \$700 million. Sigma paid top price at the top of the market it works out. The company is now capitalised at only \$560 million with the CEO having resigned. Its share price last traded at 47 cents.

Bioshares recommendation: **Not formally covered**

Bioshares

Ascent Pharmahealth (Genepharm Australasia) Commercial Summary

Date	Event	Capital raised	Price
March 2010	Strides Arcolab presents non-binding indicative proposal to acquire remaining 43% of Ascent Pharmahealth	-	35 cents per share
February 2008	Acquired Strides' Australian and Asian businesses for \$65 million through share issue to Strides Arcolab. Strides becomes 57% shareholder	-	60 cents per share
June 2006	Acquired Douglas Pharmaceuticals Australia	\$70 million	\$1.00 per share
June 2004	Listing on ASX	\$12 million	50 cents per share

– ASDM...from page 4

amputation. The Australian Institute of Health and Welfare's Report on Diabetes (2008) states that there were 31, 500 diabetes related hospitalization due to PVD in 2005, with almost 700 diabetes related deaths in 2005. However, the report noted that the proportion of diabetes deaths where PVD was factor declined by 27% between 1997 and 2005. No doubt this reflects improvements in disease management over the period. [In the USA, as many as 80,000 diabetes-related amputations occur each year, from a total of 16-20 million diabetics.]

Nevertheless, amputation is a last resort intervention in managing PVD, which creates high health management costs post-amputation. Should the trial be successful we expect ASDM to submit the PAD to the TGA for approval as a Class III product, followed by reciprocation with a CE mark certification.

The First Trial

The first trial of the PAD was completed in 15 patients diagnosed with critical limb ischaemia whose next line of treatment was amputation. The device produced blood flows of at least 550 ml/minute that were between a four times and eight times increase from a mean baseline in 14 out of 15 patients.

Eight limbs were amputated. However, one limb was salvaged for greater than three years, four limbs were salvaged for greater than two years and two limbs were salvaged for greater than one year.

Financials

ASDM posted a very small half yearly profit for 2010 H1 of \$0.05 million, from sales \$3.97 million. Sales included sale of knee product IP to **Stryker** of \$1.28 million. Sales growth adjusted was 3% from the previous corresponding year. Cash at hand as of December 31, 2009 was \$1.14 million.

Summary

According to ASDM, the trial of the PAD will take up to 18 months to complete. However, the risk exists that patient recruitment will be slower than expected. At the same time, the PAD is an attractive solution to the debilitating medical option of amputation. The initial pilot trial, while small in numbers, indicated the potential benefit of the device. However what is required from regulators is more and better data on the side effects of the intervention, and that can only be gained from a larger trial.

Bioshares recommendation: **Speculative Buy Class A**

Bioshares

Bioshares Model Portfolio (23 April 2010)

Company	Price (current)	Price added to portfolio	Date added
Tissue Therapies	\$0.23	\$0.21	January 2010
Biodiem	\$0.15	\$0.15	October 2009
QRxPharma	\$1.18	\$0.25	December 2008
Hexima	\$0.33	\$0.60	October 2008
Atcor Medical	\$0.14	\$0.10	October 2008
CathRx	\$0.16	\$0.70	October 2008
Impedimed	\$0.70	\$0.70	August 2008
Mesoblast	\$2.04	\$1.25	August 2008
Circadian Technologies	\$0.73	\$1.03	February 2008
Patrys	\$0.12	\$0.50	December 2007
Bionomics	\$0.31	\$0.42	December 2007
Cogstate	\$0.29	\$0.13	November 2007
Sirtex Medical	\$5.97	\$3.90	October 2007
Clinuvel Pharmaceuticals	\$0.24	\$0.66	September 2007
Starpharma Holdings	\$0.66	\$0.37	August 2007
Pharmaxis	\$3.17	\$3.15	August 2007
Universal Biosensors	\$1.60	\$1.23	June 2007
Probiotec	\$1.70	\$1.12	February 2007
AcruX	\$2.18	\$0.83	November 2004
Alchemia	\$0.57	\$0.67	May 2004

Portfolio Changes – 23 April 2010**IN:**

No changes.

OUT:

No changes.

– UBI..from page 3

Further Diabetes Product Development Anticipated

UBI anticipates that it may be doing more product development with Lifescan in the field of diabetes, but subject to yet to be agreed terms and conditions. This is consistent with a meeting convened by the FDA in March 2010 which discussed the sensitivity of blood glucose meters as well as their increasingly wide spread use in clinical settings. The FDA received about 12,000 reports of serious injuries from errors with blood glucose meters between 2004-2008. The current standard is for meters to be accurate within +/- 20% (ISO15197). According to a blogger who tested Lifescan's One Touch Verio, its sensitivity is +/- 15%, a level of accuracy supported as a standard by Advamed, an industry group, theta presented at the workshop. However, what UBI might aim to do with Lifescan is to produce a meter with even better accuracy, possibly +/- 10%, to both build and retain a competitive position.

CRP and D-Dimer

The next steps in the development of the C-reactive protein (CRP) is to commence product validation which is expected to take about 12 months to complete, and at the same time establish a manufacturing process and look for collaborative partners for the product. UBI's partnership strategy is to partner on the basis of clinical area or platform, rather than product. C-reactive protein is an acute phase marker of inflammation that has the potential to aid management of cardiovascular conditions as well as infection and response to its treatment. The company has several existing competitors in the point-of-care diagnostic space, including **Inverness Medical Innovations, Orion Corporation** and **Axis-Shield**.

The D-Dimer product (for assessing blood clots) is less advanced, with the main objective in 2010 to develop a working prototype and commence validation in 2011.

UBI has suspended development of its Pro-thrombin time test unless a suitable development partner can be found. This test was designed to capitalise on the warfarin drug market, however, the drug looks to face stiff competition from an emerging new class of oral anti-coagulants, dabigatran etexilate and rivaroxaban.

Summary

Universal Biosensors has proven itself as a company that can deliver a product to a partner, as well as efficiently manufacture that product. As the CRP and D-Dimer products roll through their respective development phases, we expect a heightened degree of interest in the UBI electro-chemical cell technology from health care industry customers looking for competitive patent-protected technologies to support their business goals in the *in vitro* diagnostics market place.

UBI is capitalised at \$252 million, retaining cash of \$28 million as the end of the March quarter.

Bioshares recommendation: **Speculative Buy Class A**

Bioshares

How Bioshares Rates Stocks

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

Group A

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

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

Group B

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

Speculative Buy – Class A

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

Speculative Buy – Class B

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

Speculative Buy – Class C

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

Speculative Hold – Class A or B or C

Sell

Corporate Subscribers: Pharmaxis, Starpharma Holdings, Cogstate, Bionomics, ChemGenex Pharmaceuticals, Circadian Technologies, Biota Holdings, Halcygen Pharmaceuticals, Impedimed, QRxPharma, Patrys, Labtech Systems, Hexima, Tyrian Diagnostics, Mesoblast, Atcor Medical, CathRx, BioMd, Tissue Therapies, Viralytics

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