

**In this edition...**

It has been the best of times for biotech in the US recently. The Nasdaq Biotech Index hit an all time high during the March quarter, although it appears that some profit taking has set in. The appetite for life science IPOs has returned with at least 20 completed in the first half of 2013.

In contrast, the performance of ASX listed life science stocks has been a mixed bag and the gains of some recent winners such as Isona and LBT Innovation has not been strong enough to compensate for weak performers such as Pharmaxis. An investment thematic to follow is that of stocks set to benefit from a weaker Australian dollar, as profiled in *Bioshares* 508. A perennial question is when the IPO window will open again for local biotechs.

**Companies Covered: LBT, Quarterly Review**

	Bioshares Portfolio
Year 1 (May '01 - May '02)	21.2%
Year 2 (May '02 - May '03)	-9.4%
Year 3 (May '03 - May '04)	70.6%
Year 4 (May '04 - May '05)	-16.3%
Year 5 (May '05 - May '06)	77.8%
Year 6 (May '06 - May '07)	17.4%
Year 7 (May '07 - May '08)	-36%
Year 8 (May '08 - May '09)	-7.4%
Year 9 (May '09 - May '10)	50.2%
Year 10 (May '10 - May '11)	45.4%
Year 11 (May '11 - May '12)	-18.0%
Year 12 (May '12 - May '13)	3.1%
Year 13 (May '13 - Current)	-2.2%
<b>Cumulative Gain</b>	<b>248%</b>
<b>Av. annual gain (12 yrs)</b>	<b>16.6%</b>

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# Bioshares

28 June 2013  
Edition 509

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

## Quarterly Review

### **Bioshares Index Softens in June Quarter**

The **Bioshares Index** decreased by 3% in the June quarter from the previous quarter. Positive developments generated by a handful of ASX listed life science companies were unable to overcome a combination of negative clinical trial results, developmental hiccups and broader negative market sentiment.

The **Bioshares Large Index** posted a modest gain of 4.4% during the June quarter, with 9% decrease in Cochlear's share price dampening a 4% gain for CSL, a 6% gain for Sigma Pharmaceuticals and a 15% increase for Resmed.

The **Nasdaq Biotech Index** recorded an 8.6% gain for the quarter, finishing at 1,813 points. This index reached an historic high during the quarter of 1,943 points during the June quarter. The IPO market in the US for biotechs has been running strong recently with PTC Therapeutics posting a 10% gain on its first day of trading, bluebird bio locking in a 58% first day trading gain and Prosensa a 48% gain. We count at least 20 US biotech IPOs completed so far for 2013, with eight of those occurring in May alone. A forthcoming IPO filing is that of Iroko Pharmaceuticals (seeking US\$145 million), which acquired the Perth-based iCeutica in April 2011 for an undisclosed figure (see *Bioshares* 406).

The current absence of life science IPOs in Australia – the most recent was that of Osprey Medical's in May 2012 – can be attributed to challenges facing stock broking firms coupled to weakness in other economic sectors such as mining, varying degrees of underperformance by existing listed companies and increased selectivity by investors looking for conservative and credible investment propositions. Clean slate IPOs also compete with backdoor listings as a mechanism for listing on the ASX. Eight backdoor listings have been completed or have been proposed in the last 18 months, although one of these has now been terminated. (See update below).

*Cont'd over*

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[www.bioshares.com.au/queenstown2013.htm](http://www.bioshares.com.au/queenstown2013.htm)

## Capital Raisings

An estimated \$67 million in funding was raised by ASX listed life science companies during the March quarter. This is significantly less than the \$355 million raised in the March quarter. However, if the \$312 million raised by Mesoblast and Heartware in the March quarter is excluded, then the adjusted March quarter figure of \$43 million puts the June quarter figure in a stronger light. The median figure raised from 27 separate types of fund raising was \$1.25 million.

The largest raising (of \$13.5 million) was completed late in the quarter by Isona. The company's share price had a strong run over the quarter, increasing by 350% to close at \$0.36.

Also of note was Unilife's access to its At-the-Market facility (ATM) (a facility Prana Biotech also has in place) to raise US\$11.3 million (or \$12 million).

Three companies received equity investments from Asian companies or investment groups. RuSing Medical Holdings placed \$3.6 million into Asian American Medical Group, Japan's Irom Holdings invested \$2 million in IDT Australia and Beijing Bestmed marked out a \$500,000 equity position in Compumedics.

## Backdoor Listings Update

In *Bioshares* 502, we identified eight companies that had listed using the 'backdoor' method. Since then Bioxyme's proposed acquisition of Vitality Devices has been terminated. The capitalisation of Bioxyme is \$0.6 million and its future could best be described as uncertain. Teleso Technologies is continuing to proceed with its acquisition of Mimetica, an acne drug developer. Teleso is working with the ASX to finalise advice regarding certain aspects of the transaction. Philip Capital is managing a capital raising for Teleso.

Neurodiscovery has changed its name to Oncosil Medical and is trading under the ASX ticker of OSL. Its new CEO, Dr Neil Frazer, will commence in that position from July 1.

Biolife, formerly Acuvax, but still trading with the ACU ticker, extended its capital raising offer period to June 22, 2013. The company has been seeking \$5 million. However, Biolife has not made any announcements regarding the state of the capital raising since then.

## Outperformers

The best performing life sciences stock for the June quarter belonged to Isona. Its share price rose 350% for the quarter (and by 500% from a year ago). Isona is migrating its asthma, or wheezing detection technology, to a mobile health platform, which in-

corporates a hand held sensor product with smart phone applications and environmental data. Isona has estimated that revenues for its market launch year in the US and Australia at a penetration rate of 1% would be a just under \$7.5 million.

LBT Innovations (see also page 4) registered a 102% gain for the quarter following the confirmation of its joint venture deal with Hettich AG for Automated Plate Assessment System. The upfront cash of \$2 million puts a solid floor under the business, with Hettich contributing \$4 million into the joint venture.

Shares in Neuren Pharmaceuticals increased by 100% over the quarter. The gain could be attributed to management changes that have taken place with Executive Chairman Richard Treagus recruiting his former CFO at Acrux, Jon Pilcher, to join him at Neuren. The gain could also be attributed to optimism regarding the potential range of indications the company's lead peptide drug, NNZ-2566, could be applied to, extending from the niche indications of Rett and Fragile X Syndromes to Alzheimer's, Parkinson's, Huntington's disease and multiple sclerosis and diabetes.

## Underperformers

Bioxyme shares slumped by 73% for the quarter, following the termination of its proposed acquisition of Vitality Devices.

Pharmaxis recorded a 58% decline in its share price on a quarterly basis (to \$0.14), although a mid-quarter recovery saw the stock price hit \$0.235. During the quarter, the company released results for its Phase III bronchiectasis trial. However, the primary endpoint for the trial was not met. The company also announced cost cutting plans, aiming to reduce costs by approximately 30%, giving it a two year cash runway. Pharmaxis is now capitalised at \$43 million.

Imugene shares fell 58% over the quarter, with investors yet to support the company's new business direction.

## Outlook

The outlook for the ASX listed life science companies is for a continuation of divergence in direction for different groups of companies. The weakening Australian dollar will benefit those stocks with earnings generated in US dollars. These stocks were profiled in last week's edition of *Bioshares* (508). Stocks facing regulatory decisions may weaken as investors head to the sidelines. Stocks which generate convincing progress are likely to be rewarded, with LBT Innovations being a recent example. Equity markets may be choppy ahead the Federal election, which had been scheduled for September 14, with a new date yet to be determined.

Index performances by Quarter

	Q2 2012	Q3 2012	Q4 2012	Q1 2013	Q2 2013
Bioshares Index	-12.8%	5.5%	-8.7%	-0.1%	-3.0%
Nasdaq Biotech Index	5.5%	10.0%	-3.7%	16.7%	8.6%
Bioshares Large Cap Index	7.8%	15.8%	14.7%	6.9%	4.4%
ASX 300 Index	-5.9%	7.1%	5.8%	6.7%	-3.6%

Bioshares

**Capital Raisings by Australian-listed Biotech Companies Q2 2013**

Company	Investment Manager or Investor	Type of Raising	Funds Raised (\$M)
Isona	Patersons Securities	Placement	\$13.50
Unilife		(US) ATM Facility	\$6.8
Unilife		(US) ATM Facility	\$5.1
Clinuvel Pharmaceuticals			\$6.00
Prima Biomed		SPP	\$6.17
Prima Biomed		Rights Issue	\$1.55
Asian American Medical Group	RuSing Medical Holdings Pte Ltd	Placement	\$3.60
Progen Pharmaceuticals	Mercer Capital	Rights Issue	\$5.19
Progen Pharmaceuticals	Mercer Capital	Placement	\$1.23
Novogen	Patersons Securities	Placement	\$2.50
Novogen	Patersons Securities	SPP	\$0.79
Alchemia		SPP	\$2.75
Invion	RBS Morgans	Placement	\$2.00
IDT Australia	Iron Holdings Co., Ltd (advisor: Kidder Williams)	Placement	\$2.00
Prana Biotech		SPP	\$2.00
Calzada		Placement	\$1.25
Invion		SPP	\$1.20
OBJ		Rights Issue	\$0.71
SUDA		Placements	\$0.60
Compumedics	Beijing Bestmed	Placement	\$0.50
Benitec Biopharma	Lodge Corporate	Placement (Tranche 1)	\$0.40
Advanced Surgical Design & Manufacture		Rights Issue	\$0.25
Bone Medical	La Jolla Cove Investors Inc	Convertible Note (part conversion)	\$0.19
Imugene		SPP	\$0.18
SUDA		Convertible Notes	\$0.16
Consegna	Peloton Capital	Options Rights Issue	\$0.38
OBJ		Options Rights Issue	\$0.08
<b>Total raised in Q2 2013</b>			<b>\$67.1</b>
<b>Total raised in Q1 2013</b>			<b>\$355.5</b>
<b>Total - 2013 (CY)</b>			<b>\$422.8</b>

The 'Selected Clinical Trials Development Tables - June Quarter 2013' can be found on page 10.

**Bioshares Model Portfolio (28 June 2013)**

Company	Price (current)	Price added to portfolio	Date added
Atcor Medical	\$0.070	\$0.082	May 2013
Circadian Technologies	\$0.235	\$0.270	March 2013
Tissue Therapies	\$0.115	\$0.255	March 2013
Benitec Biopharma	\$0.014	\$0.016	November 2012
Nanosonics	\$0.605	\$0.495	June 2012
Somnomed	\$0.91	\$0.94	January 2011
Cogstate	\$0.330	\$0.13	November 2007
Universal Biosensors	\$0.67	\$1.23	June 2007

**Portfolio Changes – 28 June 2013****IN:**

No changes

**OUT:**

An important aspect of investing in biotech stocks is remembering to take profits. pSivida increased by 158% since it was added and Allied Health increased by 88%. We will take profits with both of these stocks and remove them from the portfolio.

In recent years regulatory risk has been very difficult to measure, with the decisions from regulators appearing to err on the side of caution. Tissue Therapies, Pharmaxis, Chemgenex Pharmaceuticals, pSivida and QRxPharma have all suffered regulatory setbacks. With QRxPharma and Clinuvel Pharmaceuticals both set to get a final decision from the FDA and the EMA respectively this year, we will sit on the sidelines with both of these stocks.

## ***LBT Innovations Strikes Second Product Deal***

LBT Innovations (LBT: 9.5 cents) has formed a joint venture with a European manufacturing group Hettich AG Switzerland. The joint venture will be to complete the development and commercialise the second of LBT's products called APAS (an automated plate assessment system).

The APAS instrument will automatically read culture plates, detecting which plates have bacteria growing and which ones do not. LBT will receive an upfront payment of \$2 million from Hettich. Hettich will also contribute \$4.0 million of funding into the JV to get the products ready for commercial launch.

For LBT it's a less expensive way to commercialise the technology, with only \$1.6 million in cash at the end of March. LBT will equally share in profits and royalties. The JV has already started discussions with instrument diagnostic companies for global distribution rights. LBT expects the first product launch to occur 'soon'.

LBT is capitalised at \$9.5 million.

*Bioshares* recommendation: **Speculative Buy Class B**

**Bioshares**

## The Australian Listed Life Sciences Sector

**June 28, 2013 : Capitalisation \$50.6 billion, 93 companies**

### Bioshares Large Cap. Index

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 28/06/12
CSL	CSL	30,056	Manufactures pharmaceutical products including vaccines and human plasma fractions	4%	56%	\$61.58
Resmed Inc.	RMD	7,169	Manufactures diagnostic and treatment equipment for sleeping disordered breathing	15%	63%	\$5.00
Cochlear	COH	3,520	Manufactures cochlear hearing implants	-9%	-6%	\$61.71
Sigma Pharmaceuticals	SIP	891	Pharmaceutical manufacturing and wholesaling	6%	29%	\$0.79

**Capitalisation Total** 41,637

### Bioshares Index

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 28/06/12
Mesoblast	MSB	1,668	Developing therapies based on mesenchymal pre-cursor stem cells, with applications in cartilage regrowth and heart and bone repair.	-14%	-14%	\$5.300
Heartware International	HIN	1,652	Marketing a mechanical heart pump (LVAD)	20%	17%	\$2.880
Sirtex Medical	SRX	668	The company's core technology uses radioactive particles to irradiate tumours in the liver. Approved for use in most major regions.	8%	97%	\$11.980
AcruX	ACR	584	Developer of the transdermal drug products Axiron, Evamist/Ellavie and Recuvyra	-10%	-16%	\$3.510
Blackmores	BKL	457	Manufactures vitamin, mineral and herbal supplements and skin & hair products in Australia and N.Z.	-11%	3%	\$26.940
Unilife Corporation	UNS	304	Developer of retractable syringes	63%	-12%	\$0.570
Mayne Pharma Group	MYX	242	Developing an improved dosing anti-fungal drug, Subazole and operating manufacturing services. Acquired Metrics, a private US generics business.	-10%	23%	\$0.430
Starpharma Holdings	SPL	231	Developer of pharmaceutical applications of chemical scaffolds known as 'dendrimers'	-25%	-41%	\$0.815
API	API	210	Pharmaceutical wholesaler	1%	27%	\$0.430
Reva Medical	RVA	186	Developing a bioresorbable coronary stent	2%	-10%	\$0.560
GI Dynamics	GID	178	Commercialising the Endobarrier, an implantable polymer liner for the management of obesity and diabetes	-46%	-34%	\$0.595
Nanosonics	NAN	158	Developing a novel disinfection technology, the first product is a point of care ultrasound probe disinfection unit	26%	19%	\$0.605

## Bioshares Index

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 28/06/12
QRxPharma	QRX	152	Developing a 'dual opioid' drug (MoxDuo) to treat moderate to severe pain.	-10%	79%	\$1.050
Bionomics	BNO	140	Developing drugs to treat cancer and CNS diseases, and has also developed a gene diagnostic for epilepsy.	-11%	13%	\$0.340
Phosphagenics	POH	133	Commercialising a platform technology (alpha-tocopherol) that improves the delivery of pharmaceutical and other products across the skin.	0%	-13%	\$0.130
Universal Biosensors	UBI	117	Development, manufacture and commercialisation of a range of in vitro diagnostic tests for point-of-care use	-3%	6%	\$0.670
Alchemia	ACL	104	Biopharmaceutical company with a revenue generating product, generic fondaparinux. Lead product HA-Irinotecan in a pivotal Phase III trial for colorectal cancer.	-3%	-29%	\$0.320
Clovercorp	CLV	95	Development and production of omega-3 food additives from tuna oil.	-7%	51%	\$0.575
Prana Biotechnology	PBT	93	Developing drugs to treat CNS diseases such as Alzheimer's and Parkinson's	14%	69%	\$0.245
pSiVida	PVA	93	Developing drug delivery technologies, with a special focus on ophthalmic applications	80%	82%	\$4.000
Neuren Pharmaceuticals	NEU	84	Developing neuroprotective therapeutics	100%	209%	\$0.068
Isonoa	ISN	79	Respiratory and pulmonary devices company. <b>Recently completed 20:1 share consolidation.</b>	350%	500%	\$0.360
Prima Biomed	PRR	78	Developing the CVac immunotherapy.	-29%	-41%	\$0.068
Medical Developments	MVP	73	Commercialising the Pentrox inhaler for temporary pain relief. Used widely in ambulances across Australia.	-31%	61%	\$1.270
Clinuvel Pharmaceuticals	CUV	69	Developing an analogue of the alpha-MSH protein, named Scenesse, as a photo-protective agent	-25%	14%	\$1.810
SDI	SDI	61	Manufacture & distribution of amalgam (fillings) & other dental materials and product R&D.	24%	386%	\$0.510
Vita Life Sciences	VSC	57	Development, manufacture and distribution of prescription and OTC medicines as well as complementary and alternative medicines, dietary supplements and health foods	-28%	169%	\$1.010
Allied Health Group	AHZ	51	Diversified medical products group. Investor in Coridon, a vaccine technology company.	69%	172%	\$0.049
Osprey Medical	OSP	50	Developing the CINCOR system to limit the incidence of contrast induced nephropathy.	23%	23%	\$0.490
Anteo Diagnostics	ADO	46	Developer of a biological coatings technology that can be applied to immunoassays, bio-separations, drug delivery and other medical devices	3%	-19%	\$0.060

## Bioshares Index

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 28/06/12
Genetic Technologies	GTG	45	Provides DNA paternity testing services and holds broad patents relating to the use of non-coding DNA.	27%	-21%	\$0.095
Avita Medical	AVH	44	Markets ReCell, a skin repair product	13%	-30%	\$0.135
Pharmaxis	PXS	43	Markets the lung function test, Aridol. Bronchitol is approved in Europe for the management of cystic fibrosis.	-58%	-86%	\$0.140
Somnomed	SOM	39	Markets oral devices for the treatment of sleep apnea and snoring.	-5%	3%	\$0.910
Bioniche	BNC	32	Developing a bladder cancer treatment and food safety vaccine; sale of veterinary products	30%	-26%	\$0.300
Cogstate	CGS	28	Marketing cognitive performance diagnostic products	-8%	20%	\$0.360
Novogen	NRT	27	Acquired Triaxial Pharmaceuticals in 2012. Now developing 'super' benzopyrans for the treatment of cancer.	8%	150%	\$0.195
Asian American Medical Group	AJJ	26	Manages liver treatment centres in Asia . Recently changed name from Asian Centre for Liver Diseases and Transplantation	-14%	14%	\$0.125
Calzada	CZD	26	Holds a 100 % stake in PolyNovo, a polymer chemistry company.	40%	17%	\$0.070
ITL	ITD	25	Develops and distributes medical devices such as safety equipment to prevent needle stick injuries and sterile preparation kits.	17%	44%	\$0.280
Brain Resource Corp	BRC	25	Development and commercialisation of functional brain analysis techniques	4%	13%	\$0.270
Tissue Therapies	TIS	25	Developing the VitroGro product for ulcer and wound healing	-28%	-76%	\$0.115
Viralytics	VLA	21	Developing a cancer treatment based on the application of viruses (oncolytic virus technology)	-18%	-8%	\$0.245
Cryosite	CTE	20	Provides specialised storage services, especially for umbilical cord blood	-19%	105%	\$0.430
Ellex Medical Lasers	ELX	17	Develops, manufactures and markets solid state ophthalmic lasers used to treat secondary cataracts and retinal disorders.	5%	74%	\$0.200
Bluechiip	BCT	16	Development, manufacture and commercialisation of a tracking system for biological samples	-34%	-37%	\$0.165
SUDA	SUD	16	Developing the anti-malarial product ArTiMist. Recently changed name from Eastland Medical Systems	-22%	92%	\$0.025
Impedimed	IPD	16	Markets products that aid the diagnosis of secondary lymphoedema, muscle wasting and other disorders	2%	-65%	\$0.090

## Bioshares Index

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 28/06/12
Benitec Biopharma	BLT	16	R&D company focusing on gene silencing, specifically DNA delivered RNAi technology	8%	-18%	\$0.014
Cellmid	CDY	16	Developing therapies that target the midkine protein. Recently launched a range of hair loss products.	-29%	50%	\$0.024
Probiotec	PBP	15	Manufacturer, marketer and distributor of a range of over the counter (OTC) pharmaceuticals, complementary medicines and speciality ingredients	-18%	6%	\$0.280
Invion	IVX	15	Formerly Cbio. Evaluating Xtoll biologic for lupus and developing an approved heart drug, Nadalol, for COPD and asthma.	-29%	-47%	\$0.032
Living Cell Technologies	LCT	15	Developing cell therapies for diabetes, haemophilia and Huntington's disease	-15%	-18%	\$0.041
Antisense Therapeutics	ANP	14	Developing antisense compounds to treat multiple sclerosis and acromegaly	0%	-44%	\$0.010
Progen Pharmaceuticals	PGL	12	A developer of cancer therapeutics, including PI-88 and PG545	-10%	61%	\$0.225
OBJ	OBJ	12	Developing transdermal drug delivery technologies	-23%	-33%	\$0.010
Biotron	BIT	12	Developing compounds to treat HCV and HIV.	-29%	-22%	\$0.082
Avexa	AVX	12	Developing an HIV drug, apricitabine. Has invested in a US coal company.	-18%	-22%	\$0.014
USCOM	UCM	12	Marketing a non-invasive heart output function monitor. Recently acquired Pulsecor, which has developed a non-invasive central blood pressure product.	-15%	81%	\$0.170
Circadian Technologies	CIR	11	Developing drugs, including antibodies, around the VEGF C and VEGF D targets	-13%	-33%	\$0.235
Optiscan Imaging	OIL	11	Manufacture of confocal microscopes for clinical diagnosis	-26%	-22%	\$0.070
Analytica	ALT	11	A medical devices company that has developed a retractable syringe	-9%	18%	\$0.020
Patrys	PAB	11	Developing human antibody therapies for the treatment of lung, pancreatic, gastric and colon cancers	-29%	0%	\$0.022
Scigen	SIE	11	Developer and manufacturer of biopharmaceuticals. Company is based in Singapore and was spun out of Sonic Healthcare in 2002.	-50%	-56%	\$0.020
IDT Australia	IDT	11	Manufacturer of pharmaceutical ingredients to international standards for major pharmaceutical groups.	-18%	-17%	\$0.200
Atcor Medical	ACG	11	Markets the SphygmoCor device, a noninvasive technology that provides information regarding the functioning of the cardiovascular system	-25%	17%	\$0.070



## Bioshares Index

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 28/06/12
Cyclopharm	CYC	10	A nuclear medicine company that markets the Technegas lung imaging system	46%	9%	\$0.175
LBT Innovations	LBT	9	Developed the MicroStreak technology for the automation of microbiology laboratory processing. Now developing an Automated Optical Plate Sorting system.	102%	107%	\$0.095
Compumedics	CMP	9	Develops, manufactures and markets sleep diagnostic and monitoring equipment.	-2%	-14%	\$0.055
Genera Biosystems	GBI	9	Develops, manufactures and distributes advanced molecular diagnostic tests, with a particular focus on women's health.	11%	-40%	\$0.105
Medical Australia	MLA	8	Manufacture and supply of medical devices and equipment. Not previously included in these tables. Previously known as BMDI Tuta and IMD Group	100%	50%	\$0.018
Phylogica	PYC	8	Developing peptide compound libraries for use in human therapeutics.	-26%	-61%	\$0.017
Cordlife	CBB	8	Rolling out tissue banking services in Australia and Asia	-4%	-29%	\$0.050
Consegna Group	CGP	7	Developing the BreatheAssist product. <b>Completed a 5:1 share consolidation.</b>	-26%	-68%	\$0.026
Oncosil Medical	OSL	7	Formerly Neurodiscovery. Acquired the former oncology assets of pSiVida, through the acquisition of Enigma Therapeutics.	13%	95%	\$0.043
NuSep Holdings	NSP	6	Manufacture and sale of protein separations technologies	-23%	0%	\$0.050
Biodiem	BDM	5	Focused on the development of LAIV influenza vaccines	-8%	-45%	\$0.033
Advanced Surgical Design & Manufacture	AMT	5	A developer and manufacturer of prosthetic implants and medical devices	0%	-28%	\$0.105
Immuron	IMC	4	Sales and development of hyper-immune bovine colostrum products for therapeutic use	-33%	-78%	\$0.004
Resonance Health	RHT	4	Marketing the FerriScan technology, a non-invasive tool for measuring liver iron levels	-33%	-17%	\$0.010
Holista Colltech	HCT	3	Has developed a novel technology for the extraction of collagen from sheepskins	-8%	7%	\$0.060
Medigard	MGZ	3	Developed retractable syringe technology and other safety medical products.	100%	100%	\$0.030
Acuvax	ACU	2	<b>Has acquired Biolife, which is developing a vaccine immunotherapy to treat Her2 positive cancers. 1:200 share reconstruction to occur.</b>	0%	0%	\$0.001
Agenix	AGX	2	Developing a compound to treat Hepatitis B, AGX1009. Also seeking a partner in China to develop Thromboview, an imaging agent. Completed 1:25 share consolidation	5%	-77%	\$0.023

## Bioshares Index

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 28/06/12
Actinogen	ACW	2	Early stage developer of antibiotics that show activity against MRSA and VRE bacteria	-5%	-33%	\$0.020
Imugene	IMU	1	Now a drug delivery technology company. Has acquired Linguet asset from CGP	-56%	-50%	\$0.004
Bone Medical	BNE	1	Developing treatments for bone and joint degenerative diseases such as arthritis and osteoporosis.	-50%	-80%	\$0.001
Bioxyne	BXN	0.6	Terminated proposed acquisition of Vitality Devices during the June Quarter	-73%	-91%	\$0.004

**Capitalisation Total** 8,948

## Listed Biotech Investment Funds or Companies

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 28/06/12
Biotech Capital	BTC	1	The entity is engaged in the orderly sale of assets.	-41%	-50%	\$0.020

**Capitalisation Total** 1

**Capitalisation Total - All Indices** 50,586

## Selected Clinical Trial Developments - Q2 2013

Company	Code	Product/Therapeutic	Event
Allied Healthcare	AHZ	HSV Vaccine	Received ethics approval to commence Phase I trial; 20 healthy volunteers
Antisense Therapeutics	ANP	ATL1103 (acromegaly)	Commenced dosing in 24 adult patients
Bionomics	BNO	BNC105	Completed enrolment in 135 pt renal cancer Phase II trial
Bone Medical	BNE	CaPTHymone (osteoporosis) [oral parathyroid hormone]	Analysis of results from Phase II study indicates Axxess III formulation to be preferred for future development
Calzada	CZD	Novosorb VAC (negative wound pressure therapy)	Released results 20 pt study; 2 w withdraw als; no adverse reactions observed pts w ho received Novosorb and wound size reduction at d50 w as 30%; 40% for Granufoam treated wounds
GI Dynamics	GID	EndoBarrier (Type 2 diabetes and/or obesity)	Announced approval of 174 patient trial in France (funded by the French Government)
Mesoblast	MSB	Allogeneic MPCs (Intervertebral Disc Repair)	Released interim analysis of Phase II trial results (100 pts); reported significant reduction in back pain compared HA carrier alone
Mesoblast	MSB	Allogeneic MPCs (Diabetic nephropathy)	Received ethics approval to commence Phase II trial in 30 pts w ith advanced diabetic nephropathy
Pharmaxis	PXS	Bronchitol (bronchiectasis)	Announced results 52-week Phase III trial in 485 pts; trial did not meet primary endpoint
Starpharma Holdings	SPL	Vivagel (bacterial vaginosis) (prevention of recurrence)	Announced results of Phase II trial in 205 pts. AMSEL criteria endpoint not met. Observed delayed time to first recurrence of BV.
SUDA	SUD	Artimist (sub-lingual spray) (malaria)	Released preliminary Phase III results; demonstrated superiority to quinine and showed that 95.6% of pediatric pts had reduced parasite counts in first 24 hours compared to 40.6% for IV quinine
Viralytics	VLA	CAVATAK (oncolytic immunotherapy)	Announced 25 pts now enrolled in 63 pt (54 evaluable) Phase II study

**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. For both groups, the rating “Take Profits” means that investors may re-weight their holding by selling between 25%-75% of a stock.

**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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