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Companies covered: 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)	-35.8%
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 - May '14)	26.6%
Year 14 (May '14 - May '15)	23.0%
Year 15 (May '15 - May '16)	33.0%
Year 16 (May '16 - May '17)	16.8%
Year 17 (May '17 - May '18)	-7.1%
Year 18 (May '18 - May '19)	-2.3%
Year 19 (May '19 - May '20)	39.5%
Year 20 (May '20 - Current)	82.5%
Cumulative Gain	1887%
Av. Annual gain (20 yrs)	20.5%

Bioshares is published by Blake Industry & Market Analysis Pty Ltd.

Blake Industry & Market Analysis Pty Ltd ACN 085 334 292 PO Box 193 Richmond Vic 3121 AFS Licence No. 258032 Enquiries for *Bioshares* Ph: (03) 9326 5382 Fax: (03) 9329 3350 Email: info[at}bioshares.com.au

David Blake - Editor/Analyst Ph: (03) 9326 5382 Email: david[at]bioshares.com.au

Mark Pachacz - Editor/Analyst Ph: 0403 850 425 Email: mark[at]bioshares.com.au

Individual Subscriptions (48 issues/year) \$500 (Inc.GST) Edition Number 886 (1 April 2021)

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Bioshares

1 April 2021 Edition 886

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

Quarterly Review

Biotechs Continue Strong Run on ASX

The *Bioshares* count of Australia's listed lifesciences companies currently includes 145 companies that have an aggregate capitalisation of \$199 billion. Over the March quarter, 2021, the **Bioshares Index**, which includes 122 of these companies, was up 7.3% from the previous quarter, and also posting a very strong 48.4% increase over the last 12 months.

Excluded from this index is the large caps, which is dominated by CSL. The **Bioshares Large Cap Index** was down 6% for the quarter and similarly down by 6% over the previous 12 months. Also excluded are the medicinal cannabis companies. The **Bioshares Botanical Index** increased by 4.2% following a very strong move in the December quarter (up 40.6%). The index is up 42% for the year. The strong share price movements in the last quarter has seen \$90 million of funds invested in botanical product companies in the last quarter. (See Capital Raisings)

The Nasdaq Biotech Index was flat for the quarter, but over the last 12 months was up 39%. Similarly the broader equity market in Australia has had a very solid year with the ASX 300 up 32.5% over the last 12 months. This suggests equity markets may be approaching a softer period and investors may consider locking in some profits.

New Listings

There were three new listings during the quarter. The largest by capital raised was by CAR T therapy company Chimeric Therapeutics, which raised \$35 million. Chimeric is currently conducting a Phase I study in 36 patients with glioblastoma. New Zealand company Truscreen listed raising just \$2 million in the process. The company is also listed on the NZX. It is commercialising technology from Sydney University that allows clinicians to assess for cancerous and pre-cancerous tissue at the time of a pap smear using optical and electrical measurements.

Singular Health Group also listed, raising \$5 million. It is commercialising software that allows CT and MRI images to become interactive through immersive 3D models.

Capital Raisings

In the March quarter, \$585 million was raised by ASX listed lifescience companies, a continuation of the trend of high levels from the previous quarter when \$633 million was raised. This brings the total to \$1.6 billion for the capital raised in first nine months of this financial year.

Continued on page 5

	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021
Bioshares Index	-27.0%	36.7%	15.3%	-0.6%	7.3%
Bioshares Large Cap Index	6.3%	0.2%	-2.9%	2.4%	-6.1%
Bioshares Botanicals Index	-34.6%	12.9%	-7.3%	40.6%	4.2%
Nasdaq Biotech Index	-10.4%	26.7%	-0.9%	11.8%	-0.7%
ASX 300 Index	-23.7%	14.6%	-1.5%	12.1%	4.6%

Company	Code	Cap. \$m	Change - Quarter	Change - Year	Price 31/3/21
BARD1 Life Sciences	BD1	287	426.5%	468.3%	\$3.58
Anteris Technologies	AVR	80	226.4%	173.8%	\$12.24
Singular Health Group	SHG	59	187.5%		\$0.58
IDT Australia	IDT	107	140.5%	287.0%	\$0.45
AnteoTech	ADO	469	138.1%	1462.5%	\$0.25
Race Oncology	RAC	514	111.4%	1380.0%	\$3.70
Optiscan Imaging	OL	109	104.8%	975.0%	\$0.22
Actinogen Medical	ACW	65	85.7%	95.0%	\$0.04
Neurotech International	NTI	49	68.9%	1420.0%	\$0.08
Alcidion	ALC	307	67.6%	138.5%	\$0.31

Bioshares Index - Top 10 Outperformers - March Qtr, 2021

Outperformers

Bard1 Life Sciences was the standout performer in the quarter with its stock up 426%. The reason for the rise was the announcement that its protein biomarker was found to deliver 100% sensitivity and specificity in detecting elevated levels of Neu5Gc glycans.

Anteris Technologies was up 226% with the company reporting at the end of the quarter that its ADAPT process delivers significant improvements in lowering calcification of heart valve tissue compared to existing processes.

Singular Health Group made a strong listing with its stock up almost 200% from its listing price. **IDT Australia** was up 140% after the Australian Government asked the company to conduct a feasibility analysis to potentially manufacture COVID-19 vaccine.

AnteoTech gained 138% in the quarter after one of its customers Ellume (See *Bioshares* 878) secured a US\$232 million contract with the US Government. Ellume uses the company's AnteoBind technology in its quantum dot diagnostic platform.

Race Oncology shares were up 111% over the quarter, based on positive *in vitro* results for its drug candidate Bisantrene against breast cancer cells.

Optiscan Imaging shares more than doubled following strong orders for its endomicroscope from Carl Zeiss Meditec and news that its breast cancer study will move to the next stage in Melbourne. The instrument is being used to provide real time pathology results during breast cancer excision procedures.

Shares in **Actinogen Medical** went up by 86% after the company announced its new CEO, Dr Steven Gourlay, formerly with VC firm GBS Venture Partners.

Neurotech International was up 69% with the company expanding its license from Dolce Cann Global cannabis stains to all neurological disorders.

Alcidion shares continued their steady rise, up 68%, with more long term hospital contracts for its patient management software.

Bioshares Index – Bottom 10 Underperformers – March Qtr, 2021

Company	Code	Cap. \$m	Change - Quarter	Change - Year	Price 31/3/21
Adherium	ADR	14	-42.9%	23.1%	\$0.02
Cryosite	CTE	11	-41.8%	219.4%	\$0.23
Visioneering Tech.	VTI	38	-36.0%	33.3%	\$0.02
Control Bionics	CBL	52	-34.0%		\$0.62
Memphasys	MEM	52	-32.0%	74.4%	\$0.07
4D Medical	4DX	500	-29.2%		\$1.72
Avecho Biotechnology	AVE	40	-24.1%	1000%	\$0.02
Oncosil Medical	OSL	77	-23.3%	-31.9%	\$0.09
Osprey Medical	OSP	44	-22.7%	13.3%	\$0.02
Genetic Signatures	GSS	223	-22.4%	-10.9%	\$1.56

Underperformers

Adherium heads the list for the underperformers in the **Bioshares** Index, with its stock down 43% over the March quarter. The decline was driven by an \$18 million capital raise that was announced during the quarter at a 24% discount to its closing price. Part of the capital raise (\$2.5 million) has been completed with the remainder pending shareholder approval. Bioscience Managers, which also invested in Acrux in the quarter, was a lead investor.

Cord blood storage company **Cryosite** saw its shares fall be 42% due to a lack of news flow, even though revenue increased by 19% for the half to \$5.0 million.

Visioneering had seen its cash reserves fall to low levels with the market anticipating a capital raise. The company raised \$23 million through a placement and rights issue, also at a very low market capitalisation with substantial dilution. Its share price was down 36% for the quarter.

Control Bionics which listed late last year at \$0.60 a share has seen its share price drift back towards its listing price with a 34% decline during the quarter.

4D Medical, which also listed last year and made a very buoyant entry to the ASX , has now given up some of those gains from last year to post a 29% fall in its share price over the quarter. After raising \$56 million last year at \$0.73 a share, it raised a further \$46 million at \$1.60 a share.

Memphasys discovered a flaw in its biologics separation system, the Felix Device, which triggered a 32% decline in its share price. A new CEO has been installed at **Oncosil Medical**, Nigel Lange, who formerly was in charge of operations in Europe for Sirtex Medical. However the stock was down 23% for the quarter.

Osprey Medical was also down by a similar amount over the quarter with a continued large cash outflow from operations in the December quarter (US\$2.5 million).

Genetic Signatures was down 22% even though sales for the first half were up by 638% to \$18.7 million. This in part may be attributed to its strong share price performance during 2020.

Capital Raisings by ASX-listed Life Science Companies, Q1 2021

Company	Code	Investment Manager or Investor	Type of Raising	Funds Raised (\$M)	Share price
Mesoblast	MSB	SurgCenter Development (lead investor)	Placement	\$138	\$2.30
Avita Medical	AVH	BTIG / Lake Street Capital	Placement	\$80.5	\$5.40
4D Medical	4DX	Bell Potter Securities / E&P Corporate Advisory	Placement	\$40.0	\$1.55
4D Medical	4DX		SPP	\$6.0	\$1.55
Micro-X	MX1	Morgans Corporate & Haw ksbury Partners	Placement	\$30.5	\$0.34
Micro-X	MX1		SPP	\$2.5	\$0.34
Little Green Pharma	LGP		Placement	\$22.0	\$0.65
Little Green Pharma	LGP		SPP	\$5.0	\$0.65
Visioneering	VTI	Bell Potter Securities / Aurenda Partners	Placement	\$22.0	\$0.02
Visioneering	VTI		SPP	\$1.0	\$0.02
Creso Pharma	CPH	EverBlu Capital	Placement	\$18.0	\$0.19
Palla Pharma	PAL	Morgans Corporate	Placement & Insto Rights Issue	\$12.2	\$0.50
Palla Pharma	PAL	Morgans Corporate	Rights Issue	\$5.8	\$0.50
Bionomics	BNO	Aspeiron Inv. Group	Placement	\$16.0	\$0.15
Medlab Clinical	MDC	Acova Capital, Morgans Corp, Blue Ocean Equities	Placement	\$15.0	\$0.24
Osprey Medical	OSP	MRCF3 (underw riter)	Options exercised	\$12.8	,
Neuroscientific Biopharm.	NSB		Options exercised	\$12.3	\$0.20
Medical Developments Int.	MVP		SPP	\$11.8	\$6.50
MGC Pharmaceuticals	MXC	Turner Pope Investments	Placement, listed on LSE	\$11.8	40100
Nyrada	NYR	Canary Capital / Alto Capital	Placement	\$11.0	\$0.26
Acrux	ACR		SPP	\$9.8	\$0.16
Acrux	ACR	Bioscience Managers Translation Fund Number 1	Placement (T2)	\$1.2	\$0.16
Genetic Technologies	GTG	H.C. Wainw right & Co.	Placement	\$8.2	\$0.01
Noxopharm	NOX	Cannaccord Genuity	Options exercised	\$6.8	\$0.30
Avecho Biotechnology	AVE	Horizon 3 Biotech (\$1M) / Peak Asset Management	Placement	\$5.1	\$0.02
Cellmid	CDY	Mahe Capital	Placement & Rights Issue	\$4.5	\$0.08
Tali Digital	TD1	Taylor Collison	Placement	\$3.9	\$0.04
Althea Group	AGH		SPP	\$3.8	\$0.44
Actinogen Medical	ACW	Bell Potter Securities	Shortfall Placement	\$3.6	\$0.02
Neurotech Int	NTI	Merchant Group	Placement	\$2.0	\$0.06
Neurotech Int	NTI	Merchant Opportunities Fund	Options exercised	\$1.6	\$0.06
Cardiex	CDX		SPP	\$3.2	\$0.05
Cynata	CYP		Rights Issue	\$2.5	\$0.70
Anteris Technologies	AVR	Mercer Street Global Opportunity Fund	Placement & Convertible Note	\$2.5	\$3.43
Adherium	ADR	Bioscience Managers Translation Fund Number 1	Placement	\$2.5	\$0.02
Heramed	HMD	PAC Partners	Placement	\$2.3	\$0.09
Lifespot Health	LSH		Rights Issue	\$1.6	\$0.03
Lifespot Health	LSH	Ela Capital	Shortfall in Rights Issue	\$0.8	\$0.07
Dorsavi	DVL		Shortfall Placement	\$1.6	\$0.03
Stemcell United	SCU		Placement	\$1.0	\$0.03
Cynata	CYP		Shortfall Placement	\$0.8	\$0.02
				Į Į	ψ0.70
Chimeric Therapeutics	CHM	Bell Potter Securities / Baker Young	IPO	\$35.0	\$0.20
Singular Health Group	SHG	PAC Partners	IPO	\$5.0	\$0.20
Truscreen	TRU		IPO	\$2.0	\$0.07
					
Total raised in Q1 2021 Total raised CY2021				\$585 \$585	

Leading Investment Banks	Capital Raised Participation \$M
Bell Potter Securities	\$101
Morgans Corporate	\$64
PAC Partners	\$7

Selected Clinical Trial Developments - Q1 2021

Company	Company Code Product/Application		Event
Adalta	1AD	AD-214 for fibrotic lung diseases	Compound safe up to 20mg/kg in Phase I trial in 42 healthy volunteers
4D Medical	4DX	XV Lung Ventilation Analysis Software	Pilot study commenced
Anatara	ANR	ANR-pf for bacteria control in chickens	Statistical sig improvement in w eight gain, feed intake and lesions w hen
Lifesciences			challenged with necrotic enteritis
Aroa Biosurgery	ARX	Myriad for soft tissue reconstruction	Pilot study results: Successful in tissue flap procedures in non-healing chronic wounds
Amplia Therapeutics	ATX	AMP945 for fibrotic cancers	MAD Phase 1 study started in healthy volunteers
Amplia Therapeutics	ATX	AMP945 for fibrotic cancers	SAD Phase 1 study part completed in healthy volunteers
Bionomics	BNO	BNC210 for PTSD	Phase 1: 7 day solid trial with dose achieved better than expected blood levels in 10 healthy volunteers
Botanix Pharmaceuticals	BOT	BTX 801 antimicrobial	Phase IIa: 69-76% eradication of Staph infection
Nova Eye Medical	EYE	iTrack canaloplasto catheter in glaucoma	160 pt study commenced
Immutep	IMM	IMP321 Phase HNSCC	Phase lla in 28pp completed recruitment
Immutep	IMM	GSK2831781	GSK stops Phase II study in ulcerative colitis
Imugene	IMU	HER-Vaax, Gastric cancer	Phase II: Recruitment of 36 pt completed
Impedimed	IPD	L-Dex in lymphedema prevention follow ing breast cancer	1,100 pt PREVENT trial completed
Mesoblast	MSB	rexlemestrocel-L (MPC) for chronic back pain due to degenerative disc disease	Primary endpoints in Phase III : 1. Pain VAS score (MPC+HA statistically significant improvement over placebo. p-data for MPC only not provided but improvement over placebo). 2. ODI score (overall ODI data not provided)
Mesoblast	MSB	rexlemestrocel-L (MPC) for chronic heart failure	Phase III trial additional data: While trial missed primary endpoint (reduction in non- fatal heart failure events) there w as a significant reduction in major cardiac events (13% for MPC compared to 29% for placebo) in Class II HF patients and a statistically sig reduction in death in these patients (8% for MPC compared to 20% for placebo)
Noxopharm	NOX	IONIC-1: Veyonda+Opdivo in range of tumours	Phase I: 30pt trial commenced to reduce tumour resistance to Opdivo
Noxopharm	NOX	Veyonda + Lu-PSMA-617 in advanced prostate cancer	Additional Phase II data now in 56 men (previously 32 men): 19.7 month median Overall Survival (17.1 months previously). 86% achieved reduction in PSA, 53% with moderate-strong pain achieved reduction
Optiscan Imaging	OIL	Endomicroscope for breast cancer	Trial progressed to 3rd stage, in-vivo imaging of excised breast cancer sample for immediate analysis
Opthea	OPT	Wet AMP study with OPT-302	1st pt in 2x990 pt Phase III studies treated
PharmAust	PAA	Monepantel for treatment of B-cell lymphoma in dogs	Phase IIb: First 5 dogs completed treatment
Paradigm Biopharm.	PAR	Zilosul for knee pain from OA	Special Access Scheme ongoing data: in 89pt, average 49% reduction in WOMAC pain score (previous 47.3% reduction in 76pp)
Polynovo	PNV	NovoSorb SynPath for non-healing diabetic foot ulcers	First pp in 110 pp study enrolled.
Pharmaxis	PXS	PXS-5505 for bone marrow cancer (myelofibrosis) w here bone marrow is replaced w ith fibrous scar tissue	Phase 1c/2a: First pt enrolled in 18 pp study follow ed by dose expansion in 24 pt
Pharmaxis	PXS	PXS-6302 to prevent scars after burns (and other) surgery	Phase I trial commenced

Continued over

Selected Clinical Trial Developments - Q1 2021 (Cont'd)

Company	Code	Product/Application	Event
ResApp	RAP	ResAppDx for respiratory condition diagnosis	Medgate starts 3 month evaluation trial of phone-based test in Switzerland
ResApp	RAP	Test for COVID-19	Pilot study to commence to link cough sound to COVID-19 via algorithm
Rhythm Biosciences	RHY	Study 6: ColoSTAT for early detection of colorectal cancer	Sensitivity=84% ; Specificity=95% (on 300 blood samples)
Starpharma	SPL	AZD0466 (Bcl2/xL inhibitor + DEP from Starpharma) for blood based cancers	Phase I: Astrazeneca to expand to acute leukemias
Telix Pharmaceuticals	TLX	TLX250-CDx for renal cancer diagnosis	Phase III: First US pt dosed. Trial started in Oct 2018. 250 pt in total
Telix Pharmaceuticals	TLX	TLX591-CDx for prostate cancer	Phase I: Clearance in Japan for 10pt study
Volpara Health Technologies	VHT	VolparaDensity to improve breast cancer diagnosis	DENSE Study Round 2: In 3,000 w omen in the second round, false positive rate reduced from 79.8% in Round 1 to 26.3%
Medlab Clinical	MDC	NRGBiotic for depression	Phase lla: Prelim results from 120pp - Significant reduction in depression & significant improvement in QoL and psychosocial functioning
MGC Pharmaceuticals	MXC	CimetrA (phytocannabinoid) for COVID- 19	Phase III clearance in Israel

Bioshares Model Portfoli	o (1 April	2021)					
Company	Code	Price (current)	Price added to portfolio	Recommend- ation	Cap'n (\$M)	Date added	Portfolio Changes - 1 April, 2021
Clinuvel Pharmaceuticals	CUV	\$27.64	\$20.31	Buy	\$1,366	November 2020	
Opthea	OPT	\$1.560	\$0.160	Spec Buy A	\$527	November 2014	
Immutep	IMM	\$0.420	\$0.320	Spec Buy A	\$205	March 2019	IN:
Cyclopharm	CYC	\$2.550	\$1.35	Spec Buy A	\$202	September 2019	No changes
Cogstate	CGS	\$0.905	\$0.24	Spec Buy A	\$154	April 2019	
Micro-X	MX1	\$0.320	\$0.38	Spec Buy A	\$115	May 2017	OUT:
Cynata Therapeutics	CYP	\$0.620	\$0.70	Spec Buy B	\$89	December 2020	No changes
Dimerix	DXB	\$0.260	\$0.09	Spec Buy A	\$51	December 2018	C
Patrys	PAB	\$0.028	\$0.013	Spec Buy B	\$51	July 2020	
Adalta	1AD	\$0.155	\$0.07	Spec Buy B	\$38	May 2020	
Pharmaxis	PXS	\$0.083	\$0.260	Spec Buy B	\$33	December 2016	
Acrux	ACR	\$0.157	\$0.31	Spec Buy A	\$26	July 2017	

Stocks Removed from Bioshares Portfolio in TTM

Date removed	Stock
October 2020	RNO, SOM, VHT
August 2020	TLX

- from page 1

The largest raise for the quarter was by Mesoblast, which brought in \$138 million of fresh capital with SurgCenter Development leading the raise. Chief Strategy Officer of SurgCenter, Philip Facchina, has joined the board of Mesoblast. SurgCenter has opened more than 200 ambulatory surgical centres which are majority owned and operated by physicians. It conducted more than 2,300 spinal procedures in 2019 (including spinal fusion and disc replacement) and conducts around 15,000 joint replacements annually. Since listing in 2004, Mesoblast has raised \$1.2 billion through share issues.

Avita Medical raised \$80 million through a private placement. 4D Medical raised \$46 million through a private placement and SPP after listing last year when it raised \$56 million. Micro-X completed what should be a transformational capital raising with \$33 million of fresh funds. The company has conducted seven capital raises over the last three years which has been an impediment to share price growth.

The medicinal cannabis sector continued to receive strong interest from investors, with \$90 million raised in total in the quarter.

Bell Potter Securities continued to dominate the investment banking landscape for the Australian lifesciences sector with involvement in raises worth \$101 million. It was followed by Morgan Corporate which was involved in raises totalling \$64 million.

Bioshares

The ASX-Listed Life Sciences Sec March 31, 2021: Capitalisation \$199 billion, 145 companies

Bioshares Large Cap. Index

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 31/3/21
CSL	CSL	120,447	Manufactures pharmaceutical products including vaccines and human plasma fractions	-6.5%	-10.8%	\$264.65
Resmed Inc.	RMD	36,591	Manufactures diagnostic and treatment equipment for sleeping disordered breathing	-7.3%	2.3%	\$25.25
Cochlear	СОН	13,870	Manufactures cochlear hearing implants	11.6%	12.5%	\$210.97
Polynovo	PNV	1,792	Developing and selling novel polymer-based products for treating wounds and burns	-30.2%	68.8%	\$2.710
Nanosonics	NAN	1,716	Developing a novel disinfection technology. The first product, on the market, is a point of care ultrasound probe disinfection unit, branded Trophon EPR	-29.0%	1.8%	\$5.70

Capitalisation Total

174,416

Bioshares Index

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 31/3/21
Blackmores	BKL	1,542	Manufactures vitamin, mineral and herbal supplements and skin & hair products in Australia and N.Z.	5.6%	9.3%	\$79.76
Mesoblast	MSB	1,408	Developing cellular medicines to treat advanced heart failure, chronic low back pain and acute graft versus host disease	-3.6%	56.7%	\$2.170
Clinuvel Pharmaceuticals	CUV	1,338	Markets an analogue of the alpha-MSH protein, named Scenesse, as a photo-protective agent	21.3%	41.7%	\$27.070
Telix Pharmaceuticals	TLX	1,204	Development of molecularly-targeted radiation (MTR) therapies and diagnostics	13.2%	330.2%	\$4.280
Starpharma Holdings	SPL	780	Developer of pharmaceutical chemical scaffolds known has 'dendrimers'	22.7%	149.4%	\$1.920
Sigma Pharmaceuticals	SIG	720	Pharmaceutical manufacturing and wholesaling	10.6%	6.3%	\$0.680
API	API	630	Pharmaceutical wholesaler	4.1%	2.4%	\$1.280
Avita Medical	AVH	630	Markets ReCell, a skin repair product. Redomiciled to the US. Now Nasdaq listed and trades as CDIs. (20:1 share consolidation)	2.6%	-50.3%	\$5.070
Paradigm Biopharm.	PAR	580	Developing pentosan polysulphate sodium to treat bone marrow oedema, joint pain and mucopolysaccharidosis type I	0.8%	61.1%	\$2.570
lmugene	IMU	572	Developing two B-Cell cancer vaccines, HER-Vaxx and PD1- Vaxx, and an oncolytic virus technology, CF33	20.0%	500.0%	\$0.120
Mayne Pharma Group	MYX	558	Manufactures, develops and markets generic drugs, with operations in Australia and the USA	1%	13%	\$0.350
Opthea	OPT	551	Developing OPT-302 to treat wet AMD (an eye disease)	-17.4%	-19.1%	\$1.585
PYC Therapeutics	PYC	539	Developing VP-001 to treat retinitus pigmentosa	15.6%	183.3%	\$0.170
Race Oncology	RAC	514	Completing the development of a chemotherapy drug, called Bisantrene, which was the subject of more than 40 phase II clinical studies during the 1980s and 1990s.	111.4%	1380.0%	\$3.700

Company

4D Medical

AnteoTech

AFT Pharmaceuticals

Medical Developments

Aroa Biosurgery

Volpara Health

Technologies

Alcidion

Clovercorp

Immutep

Imricor

Next Science

Rhythm Biosciences

Mach 7 Technologies

BARD1 Life Sciences

Code

4DX

ADO

AFP

MVP

ARX

VHT

M7T

ALC

CLV

BD1

IMM

NXS

IMR

RHY

				- 3-
Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 31/3/21
500	Commercialising a lung function imaging technology (XV) which uses existing x-ray imaging systems combined with image processing methods to image the lung in motion	-29.2%		\$1.720
469	Developer of a biological coatings technology that can be applied to immunoassays, bio-separations, drug delivery and other medical devices	138.1%	1462.5%	\$0.250
460	Development and sale of pharmaceuticals in Australasia and Rest-of-World	-13.6%	10.3%	\$4.400
371	Commercialising the Penthrox inhaler for temporary pain relief. Used widely in ambulances across Australia.	-22.0%	-2.1%	\$5.210
361	Manufacture and sale of wound healing and soft tissue reconstruction products	4.3%		\$1.200
326	Markets breast density assessment tools and analytics, for use with breast x-ray screening programs	-9.4%	21.5%	\$1.300
309	Development and sales of an enterprise imaging management platform	5.2%	152.9%	\$1.315
307	Specialist health IT solution provider	67.6%	138.5%	\$0.310
307	Development and production of omega-3 food additives from tuna oil	10.8%	-4.9%	\$1.845
287	Developing cancer diagnostics and therapies. (30 for 1 share consolidation conducted)	426.5%	468.3%	\$3.580
272	Developing immuno-oncology drug candidates IMP761 and IMP321 (eftilagimod alpha)	-2.4%	211.5%	\$0.405
258	Commercialisation of anti-biofilm products	6.4%	3.5%	\$1.330
249	Design, manufacture and sales of MRI-compatible products for cardiac ablation procedures to treat arrhythmias	-4.4%		\$2.160
240	Developing Colostat, a blood test for the early detection of colorectal cancer	36.0%	2188.5%	\$1.190
223	Development and sale of molecular diagnostics (MDx) kits and products.	-22.4%	-10.9%	\$1.560

		240	colorectal cancer	50.070	2100.070	ψ1.150
Genetic Signatures	GSS	223	Development and sale of molecular diagnostics (MDx) kits and products.	-22.4%	-10.9%	\$1.560
Cyclopharm	CYC	204	A nuclear medicine company that markets the Technegas lung imaging system	2.8%	157.0%	\$2.570
Kazia Therapeutics	KZA	202	Developing GDC-084 for the treatment of glioblastoma multiform (a brain cancer)	37.5%	298.8%	\$1.595
Bionomics	BNO	190	Discovery and development of drugs to treat CNS diseases	55.2%	561.8%	\$0.225
Vectus Biosystems	VBS	186	Developing an anti-fibrotic compound, VB0004, with applications in heart and kidney disease	0.8%	132.7%	\$1.210
Emvision Medical Devices	EMV	183	Exploiting low energy non-ionising microwave radiation to create 3D images, with the goal of developing a device to support the diagnosis of the two main types of stroke	-16.7%	390.6%	\$2.600
Noxopharm	NOX	176	Developing a cancer treatment, NOX66, a formulation of idronoxil, which targets NADH oxidase 2.	28.6%	350.0%	\$0.630
Neuren Pharmaceuticals	NEU	169	Developing neuroprotective therapeutics	11.7%	44.9%	\$1.435
Probiotec	PBP	169	Manufacturer, marketer and distributor of a range of over the counter (OTC) pharmaceuticals, complementary medicines and speciality ingredients	-10.4%	6.4%	\$2.150
Recce	RCE	168	Development of broad spectrum antibiotics	-8.5%	271.2%	\$0.965

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 31/3/21
Somnomed	SOM	166	Markets oral devices for the treatment of sleep apnea and snoring	-4.8%	78.6%	\$2.000
Imagion Biosystems	IBX	160	Developing MagSense, a diagnostic technology which exploits the principles of superparamagnetic relaxometry	6.9%	1191.7%	\$0.155
Cogstate	CGS	158	Markets cognitive performance diagnostic products	-15.9%	180.3%	\$0.925
Impedimed	IPD	157	Markets products that aid the diagnosis of secondary lymphoedema, muscle wasting and other disorders	0.0%	212.5%	\$0.125
Micro-X	MX1	152	Development of a mobile medical x-ray imager for hospitals, a version for deployed military use and a mobile security back -scatter imager	-7.0%	144.4%	\$0.330
Atomo Diagnostics	AT1	135	Manufactures rapid diagnostic test devices for OEM customers	-21.3%	0.0%	\$0.240
Medadvisor	MDR	126	Medication adherence software platform company	-1.4%	-21.3%	\$0.350
Proteomics International	PIQ	124	Provider of protein chemistry analytical services. Seeking to commercialise a diabetic kidney disease diagnostic.	48.4%	372.0%	\$1.180
Antisense Therapeutics	ANP	121	Developing antisense compounds to treat multiple sclerosis and Duchenne Muscular Dystrophy	61.5%	337.5%	\$0.210
Optiscan Imaging	OIL	109	Manufactures confocal microscopes for clinical diagnosis	104.8%	975.0%	\$0.215
IDT Australia	IDT	107	Manufacturer of pharmaceutical ingredients to international standards for major pharmaceutical groups.	140.5%	287.0%	\$0.445
Respiri	RSH	101	Respiratory and pulmonary devices company. Markets Airsonea, an ehealth product	7.7%	89.2%	\$0.140
Exopharm	EX1	98	Development of technology for improving the purification of exosomes, which are extra-cellular vesicles which transport bioactive molecules through out the body.	22.8%	311.8%	\$0.700
SDI	SDI	97	Manufacture & distribution of amalgam (fillings) & other dental materials and product R&D	4.5%	2.5%	\$0.820
Botanix Pharmaceuticals	вот	95	Developing BTX1503 for the treatment of acne. BTX1503 combines synthetic cannabidiol with a transdermal drug delivery system, Permetrex.	-21.6%	326.1%	\$0.098
Orthocell	осс	94	Developing and marketing regenerative medicine products	11.1%	100.0%	\$0.500
Chimeric Therapeutics	СНМ	94	Developing CART T therapy for solid cancers licensed from the City of Hope Cancer Center (Listed Q1 2021)	42.5%	0.0%	\$0.285
Resonance Health	RHT	92	Markets FerriScan, a non-invasive tool for measuring liver iron levels	-16.7%	81.8%	\$0.200
Immuron	IMC	92	Sales and development of hyper-immune bovine colostrum products for therapeutic use	-2.4%	211.5%	\$0.405
Universal Biosensors	UBI	91	Development, manufacture and commercialisation of a range of in vitro diagnostic tests for point-of-care use	17.2%	229.0%	\$0.510
Painchek	РСК	90	Commercialising a smartphone app which uses facial recognition technology to detect indications of pain. TGA cleared and CE Marked.	3.9%	-2.4%	\$0.080
Cynata Therapeutics	СҮР	89	Stell cell technology company aiming to produce unlimited uniform, pharmaceutical grade MSCs from a single donor.	-9.5%	-10.1%	\$0.620
Compumedics	CMP	81	Develops, manufactures and markets sleep diagnostic and monitoring equipment.	-8.0%	39.4%	\$0.460

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 31/3/21
Genetic Technologies	GTG	81	Markets cancer risk tests	28.6%	80.0%	\$0.009
Anteris Technologies	AVR	80	Application of proprietary ADAPT technology to treate tissue used in the manufacture of cardiovascular prostheses	226.4%	173.8%	\$12.240
Oncosil Medical	OSL	77	Developing Oncosil, a brachytherapy for pancreatic cancer and liver cancer	-23.3%	-31.9%	\$0.092
Prescient Therapeutics	PTX	70	Developing compounds to treat various cancers	64.2%	292.9%	\$0.110
IMEXHS	IME	70	Markets a radiology and imaging platform, in Latin and South America, and uses SaaS and PaaS revenue models. (Completed 50:1 consolidation)	42.9%		\$2.300
Alterity Therapeutics	ATH	67	Developing PBT434 for synucleinopathies	3.2%	100.0%	\$0.032
Actinogen Medical	ACW	65	Developing Xanamem for the treatment of dementia in Alzheimer's disease patients	85.7%	95.0%	\$0.039
CardieX	CDX	60	Development of wearable blood pressure measurement devices	16.1%	306.3%	\$0.065
Singular Health Group	SHG	59	Developing medical imaging software (Listed Q1 2021)	187.5%		\$0.575
Osteopore	OSX	55	Manufacture of 3D bioresorbable implants. Three products are FDA cleared and CE Marked for cranio-facial indications	-10.6%	22.4%	\$0.465
Invex Therapeutics	IXC	54	Developing a formulation of the diabetes drug exanatide to treat idiopathic intracranial pressure and other indications	11.2%	8.9%	\$0.795
Vita Life Sciences	VLS	53	Development, manufacture and distribution of prescription and OTC medicines as well as complementary and alternative medicines, dietary supplements and health foods	-2.5%	54.8%	\$0.975
Patrys	PAB	52	Developing novel antibody therapies for a range of oncology indications. Focussed on 3E10, a cell penetrating antibody.	20.8%	123.1%	\$0.029
Control Bionics	CBL	52	Design, manufacture and sale of wireless wearable electromyography (EMG) based augmentative and alternative communication (AAC) technology (Listed Dec 2020)	-34.0%		\$0.620
Memphasys	MEM	52	Developing a sperm separation technology, SpermSep	-32.0%	74.4%	\$0.068
Dimerix	DXB	50	Developing a combination therapy, DMX200, to treat chronic kidney disease.	8.5%	82.1%	\$0.255
Invion	IVX	50	Development of Photosoft, a photosensitiser derived from chlorophyll, which it is believed can accumulate selectively in tumours and be manipulated for therapeutic purposes.	-10.0%	28.6%	\$0.009
Neurotech International	NTI	49	Has acquired proprietary cannabis strains for treating autism, epilepsy and ADHD	68.9%	1420.0%	\$0.076
Nyrada	NYR	48	Developing drugs to treat cardiovascular, neurological and chronic inflammatory diseases	29.2%	138.5%	\$0.310
Nova Eye Medical	EYE	48	Developing devices devices to treat glaucoma	-5.6%	-35.6%	\$0.335
ResApp Health	RAP	47	Developing digital healthcare solutions to diagnose and manage respiratory conditions	-20.0%	-65.1%	\$0.068
TALI Digital	TD1	46	Software company developing tools for assessment and improvement of attention in children. Formerly Novita Healthcare.	4.3%	145.0%	\$0.049
Acrux	ACR	45	Developer of topical generic drugs	-3.0%	45.5%	\$0.160

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 31/3/21
Biotron	BIT	44	Developing a drug to treat HIV. Testing drug library against SARS-CoV-2	-19.2%	-28.4%	\$0.063
Osprey Medical	OSP	44	Markets DYEVERT, a device which reduces the amount of dye needed in imaging procedures	-22.7%	13.3%	\$0.017
Adalta	1AD	40	Developing AD-214 for the treatment of idiopathic pulmonary fibrosis (IPF) and other human fibrotic diseases	32.0%	200.0%	\$0.165
Avecho Biotechnology	AVE	40	Commercialising a drug delivery system	-24.1%	1000.0%	\$0.022
Star Combo Pharma	S66	38	Develops, manufactures and markets nutritional and OTC products	-15.2%	-37.8%	\$0.280
Visioneering Technologies	VTI	38	Markets a next-generation contact lens	-36.0%	33.3%	\$0.016
Neuroscientific Biopharm.	NSB	37	Developing EmtinB, an LRP-1 receptor agonist for the treatment of Alzheimer's disease	4.0%	36.8%	\$0.260
Regeneus	RGS	36	Commercialisation of autologous adipose derived stem cells and factors. Markets HiQCell for human use and CryoShot for veterinary use.	-4.0%	71.4%	\$0.120
Allegra Orthopeadics	AMT	33	A developer and manufacturer of prosthetic implants and medical devices.	-8.6%	113.3%	\$0.320
PharmAust	PAA	33	Developing a veterinary anti-parasitic compound (PPL-1) as a human and animal cancer therapy	0.0%	54.4%	\$0.105
Pharmaxis	PXS	32	Developer of Bronchitol, which is approved in Europe and the USA for the management of cystic fibrosis. Developing a suite of compounds from amine oxidase platform.	-12.9%	-12.0%	\$0.081
Rhinomed	RNO	32	Developing nasal stent technologies with applications for sport performance, sleep and drug delivery	-21.9%	71.2%	\$0.125
Oventus	OVN	32	Developing an oral appliance to treat sleep apnea and snoring	-14.9%	-18.4%	\$0.200
Truscreen	TRU	31	Commercialising cervival cancer screening device for real time deection of cancerous and pre-cancerous tissue (Listed Q1 2021)	21.4%		\$0.085
LBT Innovations	LBT	29	Developer of innovative products which deliver productivity benefits across a range of life science settings	-18.0%	-6.5%	\$0.100
Amplia Therapeutics	ATX	28	Developing drug candidates to treat fibrotic cancers and fibrosis. Formerly Innate Immunotherapeutics.	8.3%	348.3%	\$0.260
Hexima	HXL	26	Developing HXP124 to treat fungal infection of toenails (Re- listed Q4 2020)	8.1%		\$0.200
Total Brain	ттв	26	Development and commercialisation of functional brain analysis techniques.	-15.6%	-22.9%	\$0.270
USCOM	UCM	25	Markets Uscom, a non-invasive heart output function monitor, BP+ non-invasive central blood pressure product and digital ultrasonic spirometry products	3.1%	-34.0%	\$0.165
Nutritional Growth Solutions	NGS	23	Development and sale of nutritional supplements for children. (Listed Q4 2020)	-5.8%		\$0.245
Bluechiip	вст	22	Development, manufacture and commercialisation of a tracking system for biological samples	-18.2%	-44.6%	\$0.036

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 31/3/21
Bio-Gene Technology	BGT	20	Commercialisation of the insecticides Flavocide (synthetic) and Qcide (plant-derived), in the fields of human health and crop protection.	-3.6%	-3.6%	\$0.135
Lifespot Health	LSH	19	Commercialising the Bodytel diagnostic software, which is deployed with its Medihale medical cannabis vaporiser system, as well as with patients with metabolic syndrome	49.4%	113.0%	\$0.115
Asian American Medical Group	AJJ	19	Manages liver treatment centres in Asia; expanding into radiation oncology	-15.4%	83.3%	\$0.055
StemCell United	SCU	18	Applies a proprietary stem cell technology to culture and grow plant extracts for use in Traditional Chinese Medicine.	15.8%	144.4%	\$0.022
Suda Pharmaceuticals	SUD	18	Developing drugs for oro-mucosal administration. Recently acquired IP for anagrelide, with intent to develop it as an anti- cancer therapy	15.0%	-6.1%	\$0.046
Heramed	HMD	17	Commercialising a home pregnancy monitoring technology	-11.8%	-33.1%	\$0.097
Cellmid	CDY	17	Develops and markets therapies and diagnostic tests for fibrotic diseases, cancer, ischemic diseases of the heart and hair loss.	-18.2%	-71.9%	\$0.090
Holista Colltech	нст	15	Markets dietary supplements and disinfectant products	-9.7%	-40.9%	\$0.065
Adherium	ADR	14	Commercialising personal digital medication monitoring systems to improve patient compliance and medication efficacy	-42.9%	23.1%	\$0.016
Dorsavi	DVL	13	Commercialising a wireless sensor movement monitoring system and products for use in the Elite Sports, OH&S and medical/physiotherapy markets	-9.8%	270.0%	\$0.037
Medibio	MEB	12	Commercialising a test for depression and anxiety	12.5%	50.0%	\$0.009
Anatara Life Sciences	ANR	12	Developing a gastrointestinal dietary supplement	0.0%	6.3%	\$0.170
Cryosite	CTE	11	Provides specialised storage services, especially for umbilical cord blood	-41.8%	219.4%	\$0.230
Analytica	ALT	11	Markets the Pericoach product to aid in the management of female urinary incontinence.	0.0%	50.0%	\$0.003
Bioxyne	BXN	10	Sale and distribution of probiotics	33.3%	100.0%	\$0.016
Jayex Healthcare	JHL	9	Commercialisation of the Enlighten patient workflow platform	15.4%	200.0%	\$0.045
Living Cell Technologies	LCT	7	Development of NTCELL for the treatment of Parkinson's Disease, and potentially for eye and ear diseases	-14.3%	33.3%	\$0.012

Capitalisation Total

23,043

Listed Biotech Investment Funds or Companies

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	Change - Year	Price 31/12/20
BTC Health	BTC	19	Provides capital and management expertise to high-growth Australian biotech, medtech and pharmaceutical companies	-10%	-3%	\$0.078
Capitalisation Total		19				

Company	Code	Cap. \$m	Principal Activities	Change - Quarter	ChaNne - Year	Price 31/3/21
Auscann Group Holdings	AC8	62	Developing medical cannabis products for the Australian market. (Acquired CannPal Animal Therapeutics in 2021)	-28.2%	-26.3%	\$0.140
Althea Group	AGH	130	Supply of branded medicinal cannabis products in Australia. To cultivate, extract and manufacture medicinal cannabis. Holds ODC manufacturing license.	13.8%	83.3%	\$0.495
Bod Australia	BDA	50	Developer and distributor of natural, evidence-based cosmetics and natural medicines. Holds medicinal cannabis import license. Overseas partner is Linnea SA.	-4.1%	141.0%	\$0.470
Cann Group	CAN	150	Medicinal cannabis company focused on the breeding, cultivation and production stages. Holds Australian ODC cultivation (MC) and research license (CR). Acquired Satipharm in 2021.	-8.5%	-21.7%	\$0.540
Cronos	CAU	15	Medicinal cannabis health and wellness business	-7.7%		\$0.120
Cann Global	CGB	41	Operates a hemp seeds business and conducts medical cannabis research	14.3%	14.3%	\$0.008
Creso Pharma	СРН	220	Development of cannabis and hemp derived therapeutic, nutraceutical, and life style products with wide patient and consumer reach for human and animal health.	11.1%	239.0%	\$0.200
eSense Health	ESE	9	Specialises in phytochemical profiling of plants to develop and reverse engineer terpenes for medical and other applications. Suspended from trading.	0.0%	260.0%	\$0.018
Elixinol Global	EXL	105	A supplier of hemp and medicinal cannabis products. To Acquire CannaCare Health GmbH	-5.6%	-35.6%	\$0.335
Fiji Kava	FIJ	17	Cultivation and development of kava (piper methysticum) as an alternative treatment for anxiety, pain and insomnia.	8.3%	176.6%	\$0.130
Incannex	IHL	213	Developing medical cannabis products to treat OSA, TBI and ARDS and TMD	32.3%	469.4%	\$0.205
Little Green Pharna	LGP	131	Sale and distribution of medicinal cannabis products	23.9%		\$0.700
Medlab Clinical	MDC	79	Development, production and marketing of nutraceuticals cannabis product to treat cancer patients with intractable pain	0.0%	26.3%	\$0.240
MGC Pharmaceuticals	MXC	141	A medical and cosmetic cannabis company with growing operations in Slovenia. Acquired Czech company Panax Pharma.	148.0%	264.7%	\$0.062
Palla Pharma	PAL	80	Vertically integrated opiate manufacturer	-38.9%	-10.0%	\$0.495
Epsilon Healthcare (Formerly named THC Global Group)	EPN	39	A diversified global cannabis company with operations in Australia and Canada	-12.8%	-4.7%	\$0.205
Zelira Therapeutics	ZLD	71	Developer of medicinal cannabis therapeutic products	-34.8%	76.5%	\$0.060

Botanical Product Companies (Cultivated Production)

Capitalisation Total

1,554

Capitalisation Total - All Indices

199,032

Bioshares	Number 886 – 1 April 2021	Page 1
How Biosh	ares Rates Stocks	Group B
	se of valuation, Bioshares divides biotech stocks into	Stocks without near term positive cash flows, history of losses, or at
	s. The first group are stocks with existing positive cash to producing positive cash flows. The second group are	early stages of commercialisation.
	t near term positive cash flows, history of losses, or at	Speculative Buy – Class A
	commercialisation. In this second group, which are	These stocks will have more than one technology, product or
	culative propositions, Bioshares grades them according	investment in development, with perhaps those same technologies offering multiple opportunities. These features, coupled to the
	within that group, to better reflect the very large within those stocks. For both groups, the rating "Take	presence of alliances, partnerships and scientific advisory boards,
	means that investors may re-weight their holding by	indicate the stock is relative less risky than other biotech stocks.
	n 25%-75% of a stock.	Speculative Buy – Class B These steels may have more than one product or expectivity and
Group A		These stocks may have more than one product or opportunity, and may even be close to market. However, they are likely to be lacking i
Stocks with exis	sting positive cash flows or close to producing positive cash	several key areas. For example, their cash position is weak, or
Buy	CMP is 20% < Fair Value	management or board may need strengthening.
Accumulate	CMP is 10% < Fair Value	<i>Speculative Buy – Class C</i> These stocks generally have one product in development and lack
Hold	Value = CMP CMP is 10% > Fair Value	many external validation features.
Lighten Sell	CMP is 20% > Fair Value	Speculative Hold – Class A or B or C
CMP-Curren	t Market Price)	Sell
		hea, ResApp Health, Pharmaxis, Dimerix, Adalta, Actinogen Exopharm, Immutep, Neuroscientific Biopharmaceuticals, Invex
	, Anteris Technologies	· · · · · · · · · · · · · · · · · · ·
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ACR,CGS, CYC, l are not disclosed.	IMM, OPT,CUV,MX1,PAB, PXS,RNO,SOM. These interests can change a	at any time and are not additional recommendations. Holdings in stocks valued at less than \$10
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