ISSN 1443-850X

	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 - May '21)	86.8%
Year 21 (May '21 - May '22)	-15.6%
Year 22 (May '22 - Dec '22)	-2.2%
Year 23 (CY2023)	-15.4%
Year 24 (CY2024)	21.5%
Cumulative Gain	1626%
Av. Annual gain (23 yrs)	16.6%

Companies covered: **1AD, CHM, IMU, Carina Biotech, CAR-T feature**

Bioshares is published by Blake Industry & Market Analysis Pty Ltd. ACN 085 334 292
AFS Licence No. 258032

Mark Pachacz – Editor/Analyst
Email: Bioshares1[at]gmail.com
Ph: 0403-850-425

Noa Meltzer – Researcher
Email: Bioshares3[at]gmail.com

Luca Foster – Researcher
Email: Bioshares4[at]gmail.com

Edition Number 962 (20 September 2024)

10 Best Current Performing Biotechs in FY25

Company	Code	Change
Zelira Therapeutics	ZLD	127%
Amplia Therapeutics	ATX	125%
Pacific Edge	PEB	106%
Opthea	OPT	103%
LTR Pharma	LTP	99%
Tissue Repair	TRP	84%
Hexima	HXL	75%
Clarity Pharmaceuticals	CU6	68%
Syntara	SNT	65%
Somnomed	SOM	63%

BIOSHARES

Australia's Independent Biotech Investment Resource, est.1999

20 September 2024
Edition 962

Extract from Bioshares –

Imugene Delivers Positive Early Data with Azer-Cel Technology Acquired Last Year

Imugene (IMU: $0.048) is conducting a Phase Ib study with its Azer-Cel technology which was acquired in August last year. Recently the company announced some encouraging early results from the study in the first group of evaluable patients.

The patients in the study have diffuse large B-cell lymphoma and had previously failed between four to six rounds of chemotherapy as well has having failed CAR-T treatment (against the target CD-19).

The trial is being conducted at 15 sites in the US and will expand with five sites to open in Australia.

Azer-Cel Monotherapy - Complete Response Rate of 17%

The first cohort of six patients (Cohort A) were treated patients with Azer-Cel alone. One patient achieved a complete response and one patient achieved a partial response. This equates to a Complete Response rate of 17% and an Overall Response Rate of 33%. However the responses were not durable past two months.

Azer-Cel Plus IL2 - Complete Response Rate of 67%

In Cohort B, the patients were given low dose IL2 with the Azer-Cel therapy. IL2 is known to help improve outcomes in melanoma and liver cancer although the level of IL2 used here was a fraction of that used in other oncology applications. In this study, two of the three patients who have received both therapies have achieved a complete response, which so far has been sustained in one patient past 90 days and in the other patient past 120 days.

IL2 is a known growth factor for T-cells, helping them to survive and proliferate. The safety profile has been good so far, with no Grade 3 or 4 Cytokine Release Syndrome (CRS) effects observed, although there were Grade 1 and 2 CRS events.

Also no evidence of GvHD was observed, which is important as Azer-Cel is an allogeneic therapy (meaning it includes immune cells sourced from donors). Azer-Cel has also been specifically designed to generate no graft-versus-host reaction.

Adverse neurologic events is another side effect, with one third experiencing Grade 3 or higher neurologic side effects. But when IL2 was added these side effects were not seen. Another side effect to monitor is ICANS (Immune Effector Cell-Associated Neurotoxicity Syndrome). In Cohort B so far, no evidence of ICANS has been observed.

Infection can also be a concern. Whilst the infection rate was between 50%-60%, these events were low grade and lasted only around two days according to Dr Paul Woodard, Imugene's CMO.

Continued over

– Imugene cont'd

Next Steps

Imugene will now concentrate on treating between 10 - 20 patients with the combination of Azer-Cel and IL2, with five patients having received the combination therapy so far. Once those results are received, and if positive, it will move to commencing a registration study towards the end of 2025 or early 2026. However Dr Woodard said that it is important to follow the effect on patients out to six months (i.e. it needs to show a durable effect), with a complete response of between 30% - 50% being the goal.

Imugene stated that it believes it has established the recommended dose for the therapy, has manufacturing secured and has a direct path forward with the FDA.

Summary

The results for Imugene are encouraging, although noting the combination therapy data with IL2 includes only three patients at this point.

Imugene finished June with $93 million in cash plus an expected $11 million to be received for its R&D tax rebate. The company's cash outflow from operations in FY2024 was $95 million. Imugene is capitalised at $363 million.

Bioshares recommendation: **Speculative Buy Class A**

Azer-Cel Background

Imugene acquired a license to the Azer-Cel technology last year (deal announced in August) from Precision Biosciences, which specialises in gene editing. As with many of the autologous (patient's own) CAR-T therapies, Azer-Cel targets CD19 on blood-based cancers. However what's different is that it uses allogeneic Car-T, which means the one 'off-the-shelf' therapy can be used for all patients with the particular cancer.

The Azer-Cel technology has replaced the endogenous T-cell receptor with the chimeric antigen receptor (CAR) through gene editing, which has the outcome of removing graft-versus-host rejection.

Imugene paid US$8 million upfront for the license with US$13 million to be paid in cash or shares 12 months after the acquisition. A further US$8 million is payable upon completion of the Phase Ib study. Plus up to US$351 million in milestone payments and royalties from product sales are payable. (88 million shares were issued to Precision Biosciences earlier this month.)

Imugene also took over the lease of the Azer-Cel manufacturing facility in the US, which included responsibility for a manufacturing team of around 50 people. In May this year Imugene announced it had transferred the operation of the facility, including staff, to Kincell Bio. Kincell Bio is now a contract manufacturer for Imugene for the Azer-Cel therapy.

Precision Biosciences started a Phase Ib study with the Azer-Cel therapy in 2019 in patients with non-Hodgkin lymphoma. In the 61 evaluable patients, a complete response rate was achieved in 41% of patients. However the response rate was greater in a subset of patients, those with diffuse large B-cell lymphoma (DLBCL).

In November last year Imugene progressed the Phase Ib study into patients with DLBCL.

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 Some 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 of 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: Cogstate, Syntara Dimerix, Patrys, Imugene, Chimeric Therapeutics, Neuren Pharmaceuticals, Aroa Biosurgery, Anteris Technologies, EBR Systems, Immuron, Respiri, Clinuvel Pharmaceuticals, Botanix Pharmaceuticals, Island Pharmaceuticals