UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

Form 6-K

Report of Foreign Private Issuer Pursuant to Rule 13a-16 or 15d-16 under the Securities Exchange Act of 1934

For the month of May 2023

Commission File Number 001-37626

Mesoblast Limited

(Exact name of Registrant as specified in its charter)

Not Applicable (Translation of Registrant's name into English)

Australia (Jurisdiction of incorporation or organization)

Silviu Itescu
Chief Executive Officer and Executive Director
Level 38
55 Collins Street
Melbourne 3000
Australia
(Address of principal executive offices)

 $Indicate\ by\ check\ mark\ whether\ the\ registrant\ files\ or\ will\ file\ annual\ reports\ under\ cover\ Form\ 20-F\ or\ Form\ 40-F:$ Form 20-F ☑ Form 40-F □

INFORMATION CONTAINED ON THIS REPORT ON FORM 6-K

On May 26, 2023, Mesoblast Limited filed with the Australian Securities Exchange a new release announcement and invest reference.	estor presentation, which are attached hereto as <u>Exhibit 99.1</u> and <u>Exhibit 99.2</u> , and are incorporate	ed herein by

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly organized.

Mesoblast Limited /s/ Niva Sivakumar

Niva Sivakumar Company Secretary

Dated: May 26, 2023

INDEX TO EXHIBITS

Item

 99.1
 Press release of Mesoblast Ltd, dated May 26, 2023

 99.2
 Investor presentation of Mesoblast Ltd, dated May 26, 2023.



MESOBLAST REPORTS OPERATIONAL AND FINANCIAL HIGHLIGHTS FOR QUARTER ENDED MARCH 31, 2023

Melbourne, Australia: May 26 and New York, USA: May 25, 2023: Mesoblast Limited (ASX:MSB; Nasdaq:MESO), global leader in allogeneic cellular medicines for inflammatory diseases, today reported operational highlights and financial results for the period ended March 31, 2023.

OPERATIONAL HIGHLIGHTS

Remestemcel-L BLA filing accepted by FDA, PDUFA goal date set

US Food and Drug Administration (FDA) accepted Mesoblast's filing of the Biologics License Application (BLA) for remestemcel-L in the treatment of children with steroid-refractory graft versus host disease (SR-aGVHD) as being complete and has set a Prescription Drug User Fee Act (PDUFA) goal date of August 2, 2023.

FDA pre-license inspection of remestemcel-L manufacturing conducted

As part of its ongoing review of the BLA, FDA has now conducted the Pre-License Inspection (PLI) of the manufacturing process for remestemcel-L.

The FDA inspection did not result in the issuance of a Form 483, which must be provided at the conclusion of an inspection if investigators have observed any conditions that in their judgment may constitute violations of the Food Drug and Cosmetic Act and related Acts.

According to FDA procedures, an Establishment Inspection Report (EIR) is expected to be issued by FDA in the coming weeks providing a detailed summary and final assessment of the inspection.

Key studies presented at 2023 Tandem Meetings of the American Society for Transplantation and Cellular Therapy (ASTCT) and the Center for Blood and Marrow Transplant Research (CIBMTR) in support of remestemcel-LBLA

The presentations were titled "Long-Term Survival in Children Treated with Remestemcel-L for SR-aGVHD" and "The Immunomodulatory Activity of Remestemcel-L on T Cell Activation in vitro is a Direct Measure of Product Potency and Correlates with Clinical Outcomes in Pediatric Patients with Steroid-Refractory Acute GVHD".

Regenerative Medicine Advanced Therapy (RMAT) designation granted by FDA for rexlemestrocel-L in the treatment of chronic low back pain (CLBP) associated with disc degeneration, in combination with hyaluronic acid (HA) as delivery agent for injection into the lumbar disc. FDA has cleared the pivotal trial protocol, and we expect enrolment to commence during the third quarter of this year.

DREAM-HF Phase 3 trial results published in the premier peer-reviewed journal for cardiovascular medicine, the Journal of the American College of Cardiology (JACC).

FINANCIAL HIGHLIGHTS

Successful completion of a global private placement primarily to Mesoblast's existing major US, UK, and Australian shareholders raising approximately US\$40.0 million, net of transaction costs

Cash on hand at the end of the quarter of US\$48.8 million, pro-forma cash after adjusting for US\$40.0 million of proceeds raised in April is US\$88.8 million, with up to an additional US\$40.0 million available to be drawn down from existing financing facilities subject to certain milestones.

Revenue from royalties on sales of TEMCELL® HS Inj. 23 sold in Japan by our licensee were US\$1.8 million for the quarter ended March 31, 2023. On a constant currency basis, royalties on sales grew 4% quarter on quarter to US\$2.0 million for the quarter ended March 31, 2023, compared with US\$1.9 million for the quarter ended March 31, 2022.

Mesoblast Limited ABN 68 109 431 870

www.mesoblast.com

т +1 212 880 2060 г +1 212 880 2061

T +65 6570 0635 E +65 6570 0176

Net cash usage for operating activities in the quarter was US\$16.2 million; this represented an increase of US\$0.7 million, or 4%, on the comparative quarter in FY2022, and a reduction of US\$8.3 million, or 34%, on the comparative quarter in FY2021.

OPERATIONAL RESULTS AND NEAR-TERM MILESTONES

Remestemcel-L

Activities regarding remestemcel-L for steroid-refractory acute graft versus host disease (SR-aGVHD) in children

- Resubmitted to the FDA the BLA for approval of remestemcel-L in the treatment of children with SR-aGVHD.
- The resubmission contains new information developed since the Complete Response Letter (CRL) received in September 2020, including the generation of new data and analyses which we believe provide substantial evidence of remestemcel-L's effectiveness in pediatric SR-aGVHD.
- FDA accepted Mesoblast's BLA resubmission for remestemcel-L, considering the resubmission to be a complete response and set a Prescription Drug User Fee Act (PDUFA) goal date of August 2, 2023.
- As part of its ongoing review of the BLA, FDA has now conducted the Pre-License Inspection (PLI) of the manufacturing process for remestemcel-L.
- The FDA inspection did not result in the issuance of a Form 483, which is provided at the conclusion of an inspection if investigators have observed any conditions that in their judgment may constitute violations of the Food Drug and Cosmetic Act and related Acts.
- According to FDA procedures, an Establishment Inspection Report (EIR) is expected to be issued by FDA in the coming weeks providing a detailed summary and final assessment of the inspection.
- Two studies on the remestemcel-L development program for the treatment of children with SR-aGVHD were selected by peer review and presented at the 2023 Tandem Meetings of the American Society for Transplantation and Cellular Therapy (ASTCT) and the Center for Blood and Marrow Transplant Research (CIBMTR).
- The data from these studies formed key components of Mesoblast's recent resubmission of its remestemcel-L BLA to FDA for children with SR-aGVHD.

Rexlemestrocel-L

Activities regarding rexlemestrocel-L for discogenic chronic low back pain (CLBP)

- FDA granted Mesoblast a Regenerative Medicine Advanced Therapy (RMAT) designation for treatment of discogenic chronic low back pain.
- FDA has confirmed that a 12-month reduction in pain alone is an approvable indication. Key secondary endpoints will be improvement in function and reduced opioid usage. Mesoblast will use this primary endpoint of pain reduction in its next Phase 3 trial under the RMAT designation.
- FDA has cleared the pivotal trial protocol, and we expect enrolment to commence during the third quarter of this year

RMAT designations aim to expedite the development of regenerative medicine therapies intended to treat, modify, reverse, or cure a serious or life-threatening disease or condition where preliminary clinical evidence indicates that the drug has the potential to address unmet medical needs for the disease or condition. An RMAT designation for rexlemestrocel-L provides all the benefits of Breakthrough and Fast Track designations, including rolling review and eligibility for priority review on filing of a BLA.

There is a significant need for a safe, effective, and durable opioid-sparing treatment in patients with CLBP associated with degenerative disc disease. Mesoblast has previously gained alignment with the FDA on the key metrics for a pivotal Phase 3 study of rexlemestrocel-L which seeks to replicate the significant reduction in pain seen in the first Phase 3 trial.

Activities regarding rexlemestrocel-L for chronic heart failure with reduced ejection fraction (HFrEF)

Publication of the DREAM-HF Phase 3 trial results in the premier peer-reviewed journal for cardiovascular medicine, the *Journal of the American College of Cardiology (JACC)*. The results of the randomized, double-blind, controlled study in 537 patients showed that Mesoblast's mesenchymal precursor cell therapy (MPCs; revlemestrocel-L) strengthened heart function at 12 months, as measured by left ventricular ejection fraction (LVEF) and decreased cardiovascular death, myocardial infarction (MI) or stroke in patients with chronic heart failure (CHF) due to reduced ejection fraction (HFrEF) over a mean follow-up of 30 months.¹

The study enrolled patients across 51 sites in North America and the results showed that a single intra-myocardial injection of 150 million cells of rexlemestrocel-L:

- improved LVEF from baseline to 12 months to a significantly greater extent than controls across all patients with available echocardiograms (p=0.021), with maximal benefit seen in patients with active inflammation as measured by the presence of baseline hsCRP ≥2mg/L (p=0.008)
- · reduced risk of MI or stroke by 57% (HR 0.43; 95% CI [0.23, 0.78]) in all treated patients compared with controls
- reduced risk of MI or stroke by 75% (HR 0.25; 95% CI [0.09, 0.68]) in patients with inflammation (baseline hsCRP ≥2mg/L) compared with controls
- reduced risk for time-to-first Major Adverse Cardiac Event (MACE), defined as cardiovascular death, MI or stroke, by 28% (HR 0.72; 95% CI: [0.51, 1.03]) in all-treated patients compared with controls
- reduced risk for time-to-first MACE by 37% (HF 0.63; 95% CI: [0.39, 1.02]) in patients with inflammation (baseline hsCRP≥2mg/L) compared with controls.

Results from three randomized controlled trials of rexlemestrocel-L in class II/III and in end-stage HFrEF with left ventricular assist devices (LVADs) support the hypothesis that rexlemestrocel-L acts by a common mechanism of action to reverse inflammation-related endothelial dysfunction, thereby reducing adverse clinical outcomes across the spectrum of HFrEF patients.

Improvement in LVEF at 12 months in patients with HFrEF may be an appropriate early surrogate endpoint for long term reduction in major adverse cardiovascular events (MACE).

Mesoblast plans to meet with the FDA under its existing RMAT designation for end-stage HFrEF patients with LVADs to discuss common mechanisms- of-action across the spectrum of HFrEF patients from NYHA class II/III to those with an implanted LVAD, and potential pathway to marketing approval.

FINANCIAL RESULTS FOR THE PERIOD ENDED MARCH 31, 2023 (THIRD OUARTER FY2023)

- Cash reserves on hand at the end of the quarter of US\$48.8 million, pro-forma cash after adjusting for US\$40.0 million of proceeds raised in April is US\$88.8 million, with up to an additional US\$40.0 million available to be drawn down from existing financing facilities subject to certain milestones.
- Net cash usage for operating activities was US\$16.2 million for the third quarter FY2023. This represents a 4% increase (US\$0.7 million) from the third quarter FY2022, and a 34% reduction (US\$8.3 million) from the third quarter FY2021.
- Revenue from royalties on sales of TEMCELL® HS Inj.² sold in Japan by our licensee for the third quarter FY2023 were US\$1.8 million. On a constant currency basis, sales for the third quarter FY2023 grew 4% to US\$2.0 million,³ compared with US\$1.9 million for the third quarter FY2022.
- Research & Development expenses reduced by US\$1.2 million (14%), down to US\$7.0 million for the third quarter FY2023 compared to US\$8.2 million for the third quarter FY2022. R&D expenses primarily supported preparations for the remestemcel-L BLA re-submission and preparations for pivotal studies for rexlemestrocel-L, as clinical trial activities for our product candidates are reduced since clinical trial recruitment and data analysis are now complete.
- · Manufacturing expenses were US\$6.2 million for the third quarter FY2023 compared to US\$5.6 million for the third quarter FY2022. During the quarter we continued pre-launch manufacturing

activities and product testing for remestemcel-L to support the potential commercial launch for SR-aGVHD.

We expect to recognize the US\$31.0 million balance of remestemcel-L pre-launch inventory, and the balance of any further production completed at that time, on our balance sheet if we receive FDA approval.

- Management and Administration expenses reduced by US\$1.2 million (15%), down to US\$6.4 million for the third quarter FY2023 compared to US\$7.6 million for the third quarter FY2022 primarily due to professional fees associated with a one-off corporate activity incurred during the prior period.
- Remeasurement of Contingent Consideration recognized gains of US\$1.3 million in the third quarter FY2023 reflecting a reduction in future third party payments compared to a gain of US\$0.7 million in the third quarter FY2022.
- Fair value movement of warrants recognized a loss of US\$0.5 million in the third guarter FY2023 compared to a gain of US\$0.9 million in the third guarter FY2022.
- Other operating income in the third quarter FY2023 includes R&D tax incentive income of US\$3.1 million. The income recorded in this quarter pertains to the eligible expenditure refundable under the Australian governments incentive program for the years ended June 30, 2021 and 2022 and the nine months ended March 31, 2023.
- Finance Costs for borrowing arrangements include US\$3.8 million of non-cash expenditure for the third quarter FY2023 comprising accruing interest and borrowing costs.

Loss after tax for the third quarter FY2023 was US\$18.6 million compared to US\$21.3 million for the third quarter FY2022. The net loss attributable to ordinary shareholders was 2.53 US cents per share for the third quarter FY2023, compared with 3.28 US cents per share for the third quarter FY2022.

Conference Call
There will be a webcast today, beginning at 8.30am AEST (Friday, May 26); 6.30pm EDT (Thursday, May 25). It can be accessed via: https://webcast.openbriefing.com/msb-qtr1-2023/

The archived webcast will be available on the Investor page of the Company's website: www.mesoblast.com

About Mesoblast

About wesoblast Mesoblast is a world leader in developing allogeneic (off-the-shelf) cellular medicines for the treatment of severe and life-threatening inflammatory conditions. The Company has leveraged its proprietary mesenchymal lineage cell therapy technology platform to establish a broad portfolio of late-stage product candidates which respond to severe inflammation by releasing anti-inflammatory factors that counter and modulate multiple effector arms of the immune system, resulting in significant reduction of the damaging inflammatory process.

Mesoblast has a strong and extensive global intellectual property portfolio with protection extending through to at least 2041 in all major markets. The Company's proprietary manufacturing processes yield industrial-scale, cryopreserved, off-the-shelf, cellular medicines. These cell therapies, with defined pharmaceutical release criteria, are planned to be readily available to patients worldwide.

Mesoblast is developing product candidates for distinct indications based on its remestemcel-L and rexlemestrocel-L allogeneic stromal cell technology platforms. Remestemcel-L is being developed for inflammatory diseases in children and adults including steroid refractory acute graft versus host disease, biologic-resistant inflammatory bowel disease, and acute respiratory distress syndrome. Rexlemestrocel-L is in development for advanced chronic heart failure and chronic low back pain. Two products have been commercialized in Japan and Europe by Mesoblast's licensees, and the Company has established commercial partnerships in Europe and China for certain Phase 3 assets.

Mesoblast has locations in Australia, the United States and Singapore and is listed on the Australian Securities Exchange (MSB) and on the Nasdaq (MESO). For more information, please see www.mesoblast.com, LinkedIn: Mesoblast Limited and Twitter: @Mesoblast

References / Footnotes

- Perin EC. Et al. Randomized Trial of Targeted Transendocardial Mesenchymal Precursor Cell Therapy in Patients With Heart Failure. JACC Vol. 81, No. 9, 2023. https://doi.org/10.1016/j.jacc.2022.11.061 TEMCELL® HS Inj. is a registered trademark of JCR Pharmaceuticals Co. Ltd.
- TEMCELL sales by our Licensee are recorded in Japanese Yen before being translated into USD for the purposes of calculating the royalty paid to Mesoblast. Results have been adjusted for the movement of the USD to Japanese Yen exchange rate from 1USD:123.41 Yen for the 3 months ended March 31, 2022 to 1USD:134.54 Yen for the 3 months ended March 31, 2023.

Forward-Looking Statements

This press release includes forward-looking statements that relate to future events or our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to differ materially from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. We make such forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. Forward-looking statements should not be read as a guarantee of future performance or results, and actual results may differ from the results anticipated in these forward-looking statements, and the differences may be material and adverse. Forward-looking statements include, but are not limited to, statements about the initiation, timing, progress and results of Mesoblasts preclinical and clinical studies, and Mesoblasts's ability to advance product candidates into, enroll and successful or including multi-national clinical trials; Mesoblast's ability to advance product candidates into, enroll and successful or including multi-national clinical trials; Mesoblast's ability to advance product candidates, if any; the commercialization of Mesoblast's product candidates, if any; the commercialization of Mesoblast's product candidates, if any are approved, to be withdrawn from the market due to patient adverse events or deaths; the potential benefits of strategic collaboration agreements and Mesoblast's ability to enter into and maintain intellectual property on its product candidates and Mesoblast's expless of strategic collaborations; Mesoblast's ability to enter into and maintain established strategic collaborations; Mesoblast's expless of strategic collaborations; Mesoblast's ability to enter into and maintain intellectual property or its product candidates and the soblast's ability to successfully defe

Release authorized by the Chief Executive.

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Consolidated Income Statement

	Three Months Ended March 31,		Nine Mont	
(in U.S. dollars, in thousands, except per share amount)	2023	2022	2023	2022
Revenue	1,939	2,011	5,362	7,987
Research & development	(7,066)	(8,250)	(20,496)	(27,776)
Manufacturing commercialization	(6,246)	(5,590)	(19,006)	(19,717)
Management and administration	(6,407)	(7,567)	(19,688)	(21,259)
Fair value remeasurement of contingent consideration	1,318	672	7,307	601
Fair value remeasurement of warrant liability	(517)	896	(1,229)	3,048
Other operating income and expenses	3,317	392	3,278	(12)
Finance costs	(4,984)	(3,911)	(15,670)	(12,951)
Loss before income tax	(18,646)	(21,347)	(60,142)	(70,079)
Income tax benefit/(expense)	46	45	172	187
Loss attributable to the owners of Mesoblast Limited	(18,600)	(21,302)	(59,970)	(69,892)
Losses per share from continuing operations attributable to the ordinary equity holders of the Group:	Cents	Cents	Cents	Cents
Basic - losses per share	(2.53)	(3.28)	(8.29)	(10.78)
Diluted - losses per share	(2.53)	(3.28)	(8.29)	(10.78)

Consolidated Statement of Comprehensive Income

	Three Montl March		Nine Mont Marcl	
(in U.S. dollars, in thousands)	2023	2022	2023	2022
Loss for the period	(18,600)	(21,302)	(59,970)	(69,892)
Other comprehensive (loss)/income				
Items that may be reclassified to profit and loss				
Exchange differences on translation of foreign operations	152	(333)	252	(516)
Items that will not be reclassified to profit and loss				
Financial assets at fair value through other comprehensive income	83	(314)	275	(48)
Other comprehensive (loss)/income for the period, net of tax	235	(647)	527	(564)
Total comprehensive losses attributable to the owners of Mesoblast Limited	(18,365)	(21,949)	(59,443)	(70,456)

Consolidated Balance Sheet

Kear of the Company of the C		As of	As of
Asser Asser Circul Asser 48.79 6.48.47 Cash & cast quishents 48.79 6.48.47 Cash & cast quishents 4.09 6.48.73 Total Current Asses 4.07 6.08.73 Nor-Current Asses 3.08 6.08.73 Property James and equipment 1.48 2.08.25 Ripacid assets a fair alue drough other comprehensive income 2.02 2.07.26 Claimagide assets 5.03 5.03 5.03 Taliancial assets a fair alue drough other comprehensive income 2.02 7.07 2.02 1.07 2.02 1.02 2.02 1.02 2.02 1.02 2.02 1.02 2.02 1.02 2.02 1.02 2.02 1.02 2.02 1.02 2.02 1.02 2.02 <th< th=""><th></th><th>March 31,</th><th>June 30,</th></th<>		March 31,	June 30,
Current Asset 45,00 60,40	(in U.S. dollars, in thousands)	2023	2022
Gas des quisolements 48.79 6.44 Table 4 bente problement 4.70 4.80 Table 5 bente problement 4.70 4.80 Table 1 bente problement 4.70 6.80 Nor-Current Asses 5.64 7.90 Rigner 4 bente problement of group of the controller of the problement of the probleme	Assets		
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peages 45.0 <	Cash & cash equivalents	48,799	60,447
Total Current Asset 61,565 69,387 Non-Current Asset 1 Eight of Just and equipment 1,484 2,045 Eight of Just assets fair value frough other comprehensive income 5,148 7,022 1,788 Eight of Just assets fair value frough other comprehensive income 2,023 1,788 1,788 1,788 1,788 1,788 1,788 1,788 1,788 1,788 1,788 1,788 1,788 1,788 1,788 1,788 1,788 1,789 2,207 1,789 1,789 2,207 1,789 2,207 1,789 2,207	Trade & other receivables	8,393	4,403
No-Current Assets 1.48 2.04 Right-of-use assets fair value through other comprehensive income 1.68 7.92 Chen on-current assets fair value through other comprehensive income 2.03 1.73 Chen on-current assets 2.75 1.58 Intagible asset 57,513 57,652 Intagible asset 589,076 523,03 Intagible asset 20,272 20,272 Intagible asset 20,272 20,272 Provision 11,575 17,000 Borrowing 1,510 1,510 Intagible asset 1,616 1,512 Portisions 1,617 1,512 Borrowing 1,617 1,617 Intagible asset asse	Prepayments	4,173	4,987
Progrey, plant and equipment 1,464 2,045 Right-Of-Less deses 5,64 7,920 Other non-current assets 2,038 1,738 Other non-current assets 2,308 1,308 Charges 575,31 58,606 Total Non-Current Assets 589,07 58,006 Total Assets 589,07 52,007 Provisions 2,972 2,007 Post Current Liabilities 3,01 5,005 Asset (abilities 3,01 5,005 Post-Current Liabilities 8,167 12,023 Defrowings 8,167 12,023 Defrowings 8,167 12,023 Defrowings 9,003 1,015 Less liabilities 9,003 2,015 Defrowings 1	Total Current Assets	61,365	69,837
Progrey, plant and equipment 1,464 2,045 Right-Of-Less deses 5,64 7,920 Other non-current assets 2,038 1,738 Other non-current assets 2,308 1,308 Charges 575,31 58,606 Total Non-Current Assets 589,07 58,006 Total Assets 589,07 52,007 Provisions 2,972 2,007 Post Current Liabilities 3,01 5,005 Asset (abilities 3,01 5,005 Post-Current Liabilities 8,167 12,023 Defrowings 8,167 12,023 Defrowings 8,167 12,023 Defrowings 9,003 1,015 Less liabilities 9,003 2,015 Defrowings 1			
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Financia sets at fair value fronge here king in concurrent sets 2,03 1,788	Property, plant and equipment	1,484	2,045
One no-current asses 3.73.8 1.93.6 Intapilipa assets 58.95.6 58.05.6 Tabl Non-Current Assets 65.04.0 58.03.6 Tablasses 65.04.0 66.04.0 Libilities 20.97 20.00 Tabe and other payables 20.97 20.00 Prosions 17.56 17.06 Borrowings 3.06 2.08 Varient Liabilities 3.06 2.08 Varient Liabilities 3.05 3.08 Nor-current Liabilities 8.06 9.00 Borrowings 9.04 9.00 Borrowings 9.04 9.00 Bessel labilities 9.04 9.00 Deferred consideration 2.50 2.00 Total Liabilities 1.08 1.08 Total Liabilities 1.08	Right-of-use assets	5,641	7,920
Intagilie asset 577,51 578,60 <t< td=""><td>Financial assets at fair value through other comprehensive income</td><td>2,032</td><td>1,758</td></t<>	Financial assets at fair value through other comprehensive income	2,032	1,758
Total Non-Current Assets 588,00° 592,00° Total Assets 589,00° 592,00° Liabilities Second to the payables 20,00° 23,00° Tode and other payables 20,00° 23,00° 23,00° 23,00° 23,00° 23,00° 33,0	Other non-current assets		
Idalstitics Format Liabilities Current Liabilities 20,92 23,03 20,92 20,9	Intangible assets		
Liabilities Trade and other payables 20.972 23.079 Provisions 17.56 17.966 Borrowings 3.005 3.186 Lease liabilities 4.450 2.185 Vacular Liability 53.917 51.373 Provisions 8,167 12.523 Borrowings 99.04 9.1617 Borrowings 99.04 9.1617 Berest consideration 2.500 2.500 Defenct consideration 1.250 2.500 Total Non-Current Liabilities 1.363 1.05.08 Defenct consideration 2.500 2.500 Total Non-Current Liabilities 1.68,273 1.05.08 Total Liabilities 1.68,273 1.05.08 Net Asset 482,186 497.04 Equity 2.500 2.500 Reserves 1,207.50 1,165.30 Reserves 2,354 70.61 Cecumulated losses) retained ennings (783,806 (783,806	Total Non-Current Assets	589,076	592,305
Current Liabilities 80,922 20,975 Frovisions 17,576 17,906 Borrowings 7,314 5,017 Least labilities 3,605 3,816 Warrant Liability 4,505 2,185 Varient Liabilities 53,917 51,337 Nor-Current Liabilities 8,167 1,252 Borrowings 9,043 9,167 Least liabilities 9,043 9,167 Least liabilities 9,043 9,167 Deferred consideration 2,50 2,50 Total Non-Current Liabilities 114,36 13,52 Total Liabilities 118,27 15,50 Total Liabilities 118,27 15,50 Total South 18,27	Total Assets	650,441	662,142
Current Liabilities 80,922 20,975 Frovisions 17,576 17,906 Borrowings 7,314 5,017 Least labilities 3,605 3,816 Warrant Liability 4,505 2,185 Varient Liabilities 53,917 51,337 Nor-Current Liabilities 8,167 1,252 Borrowings 9,043 9,167 Least liabilities 9,043 9,167 Least liabilities 9,043 9,167 Deferred consideration 2,50 2,50 Total Non-Current Liabilities 114,36 13,52 Total Liabilities 118,27 15,50 Total Liabilities 118,27 15,50 Total South 18,27			
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Ket Asset 482,168 497,044 Equity 5 1,207,500 1,165,309 Reserves 73,554 70,651 (Accumulated losses)/retained earnings (798,86) (738,916)	Total Non-Current Liabilities		
Equity 1,207,500 1,165,309 Issued Capital 73,554 70,651 (Accumulated losses)/retained earnings (798,886) (738,916)	Total Liabilities	168,273	165,098
Issued Capital 1,207,500 1,165,309 Reserves 73,554 70,651 (Accumulated losses)/retained earnings (798,886) (738,916)	Net Assets	482,168	497,044
Issued Capital 1,207,500 1,165,309 Reserves 73,554 70,651 (Accumulated losses)/retained earnings (798,886) (738,916)			
Reserves 73,554 70,651 (Accumulated losses)/retained earnings (798,886) (738,916)	Equity		
Reserves 73,554 70,651 (Accumulated losses)/retained earnings (798,886) (738,916)		1,207,500	1,165,309
	Reserves	73,554	70,651
Total Equity 482,168 497,044	(Accumulated losses)/retained earnings	(798,886)	(738,916)
	Total Equity	482,168	497,044

Consolidated Statement of Cash Flows

	Nine Months March 3	1,
(in U.S. dollars, in thousands)	2023	2022
Cash flows from operating activities	= 0.40	= 0.00
Commercialization revenue received	5,646	7,969 24
Government grants and tax incentives received	_	24
Payments to suppliers and employees (inclusive of goods and services tax)	(53,032)	(59,855)
Interest received	399	5
Income taxes paid	(4)	(31)
Net cash (outflows) in operating activities	(46,991)	(51,888)
Cash flows from investing activities	(0.07)	(110)
Investment in fixed assets Receipts from investment in sublease	(227) 67	(110)
1		(75)
Payments for intellectual property	(50)	(75)
Net cash (outflows) in investing activities	(210)	(185)
Cash flows from financing activities		
Proceeds from borrowings	_	51,919
Repayment of borrowings	_	(55,458)
Payment of transaction costs from borrowings	(412)	(5,513)
Interest and other costs of finance paid	(4,244)	(4,317)
Proceeds from issue of shares	45,065	209
Proceeds from issue of warrants	_	8,081
Payments for share issue costs	(2,873)	(216)
Payments for lease liabilities	(1,791)	(2,359)
Net cash inflows/(outflows) by financing activities	35,745	(7,654)
Net increase/(decrease) in cash and cash equivalents	(11,456)	(59,727)
Cash and cash equivalents at beginning of period	60,447	136,881
FX gain/(losses) on the translation of foreign bank accounts	(192)	(394)
Cash and cash equivalents at end of period	48,799	76,760
Casii anu Casii equivaients at enu oi periou	40,733	70,700





Global Leader in Allogeneic Cellular Medicines for Inflammatory Diseases

Operational Highlights and Financial Results for the Quarter Ended March 31, 2023



CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This presentation includes forward-looking statements that relate to future events or our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. We make such forward-looking statements to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. All statements other factors that may cause our actual results on an er forward-looking statements. Words such as, but not limited to, "believe," "expect," "anticipate," "estimate," "intend," "fargets," "like," "would," "could," and similar expressions or phrases identify forward-looking statements. We have based these forward-looking statements largely on our current expectations and future events, recent changes in regulatory laws, and financial tends these believe may affect our financial condition, results of operation, business strategy and financial needs. These statements may relate to, but are not limited to: expectations regarding the strength of Mesoblasts intellectual property, the timeline for Mesoblasts adult stem cell technologies; expectations regarding the strength of Mesoblasts intellectual property, the timeline for Mesoblasts adult stem cell technologies; expectations and utfure events, recent changes in regulatory approval process, and the benefits of those relationships; statements concerning Mesoblasts share price or potential market capitalization; and statements concerning Mesoblasts approached to the rend as a guarantee of future performance or results, and actual results may differ from the results anticipated in these forward-looking statements, and the differences may be material and adverse. You should read this presentation together with our financial statements and the notes related thereto, as well as the risk factors, in our most recently filed reports with the SEC or on our website. Uncertainties

Our Mission

Mesoblast is committed to bringing to market innovative cellular medicines to treat serious and life-threatening illnesses



Investment Highlights

Novel Allogeneic Cell Therapy Platform Developing off-the-shelf, allogeneic cellular medicines based on proprietary mesenchymal stromal cell (MSC) technology platforms to enable treatment without the need for donor matching or immunosuppression

Remestemcel-L for SR-aGVHD

FDA review of BLA with PDUFA goal date August 2, 2023, for children with steroid-refractory acute graft versus host disease (SR-aGVHD). FDA has now conducted the Pre-License Inspection (PLI) of the manufacturing process for remestemcel-L

Rexlemestrocel-L for CLBP

First Phase 3 completed for discogenic chronic low back pain (CLBP). RMAT granted by FDA. Progressing towards initiation of a second pivotal Phase 3 study mid-CY2023

Rexlemestrocel-L for HFrEF

First Phase 3 completed for heart failure with reduced ejection fraction (HFrEF) Class II/III patients. RMAT granted by FDA for end-stage HFrEF patients with an LVAD

Finances

Last 12 months revenue of US\$7.6 million from royalties; Cash-on-hand was US\$48.8 million, pro-forma cash after adjusting for US\$40 million placement is US\$88.8 million plus up to an additional US\$40m from existing financing facilities, subject to certain milestones.

BLA = Biologics License Application FDA = United States Food and Drug Administration PDUFA = Prescription Drug User Fee Act RMAT = Regenerative Medicine Advanced Therapy LVAD = Left Ventricular Assist Device



Late-Stage Clinical Pipeline

Based on the Proprietary Allogeneic Mesenchymal Stromal Cell Platform

Product	Indication	Phase 2	Phase 3	Regulatory Filing	Approved	Status/Next Steps
Remestemcel-L	Pediatric SR-aGVHD			»		 BLA accepted for review PDUFA goal date August 2, 2023 FDA PLI conducted
Remestemcel-L	Adult SR-aGVHD; ARDS; IBD		»			Label extension Clinical collaborations Investigator-initiated trials
Rexlemestrocel-L	CLBP		»			 RMAT granted Planning to start pivotal Phase 3 trial mid-CY2023
Rexlemestrocel-L	HFrEF		»			RMAT granted for End-Stage / LVAD FDA meeting planned for CY2023

SR-aGVHD = Steroid-Refractory Acute Graft Versus Host Disease

CLBP = Chronic Low Back Pain

BD = Inflammatory Bowel Disease

HFFEF = Heart Failure with Reduced Ejection Fraction LVAD = Left Ventricular Assist Device

ARDS = Acute Respiratory Distress Syndrome

RMAT = Regenerative Medicines Advanced Therapy designation PLI = Pre-Licensure Inspection





Financial Results

for the Period Ended March 31, 2023

Manufacturing Remestemcel-L
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Financial Highlights

Royalty Revenue

Revenue from royalties on sales of TEMCELL® HS Inj.¹ sold in Japan by our licensee were US\$1.8 million for the quarter ended March 31, 2023. On a constant currency basis, royalties on sales grew 4% quarter on quarter to US\$2.02 million for the quarter ended March 31, 2023, compared with US\$1.9 million for the quarter ended March 31, 2022. Last 12-months revenue of US\$7.6 million from royalties on product sales.

Cash Burn

Net cash usage for operating activities in the third quarter FY2023 was US\$16.2 million; this represented a 4% increase (US\$0.7 million) on the third quarter FY2022, and a 34% reduction (US\$8.3 million) on the third quarter FY2021.

Successful completion of a global private placement primarily to Mesoblast's existing major US, UK, and

Cash Reserves

At March 31, 2023, cash-on-hand was US\$48.8 million, pro-forma cash after adjusting for proceeds of $US\$40.0\ million\ raised\ in\ April\ private\ placement\ is\ US\$88.8\ million,\ with\ up\ to\ an\ additional\ US\$40.0\ million$ available to be drawn down from existing financing facilities subject to achieving certain milestones.

TEMCELL® HS Inj. is a registered trademark of JCR Pharmaceuticals Co. Ltd.

TEMCELL sales by our Licensee are recorded in Japanese Yen before being translated into USD for the purposes of calculating the royalty paid to Mesoblast. Results have been adjusted for the movement of the USD to Japanese Yen exchange rate from 1USD:123.41 Yen for the 3 months ended March 31, 2022 to 1USD:134.54 Yen for the 3 months ended March 31, 2023.



Reduction in Expenditure on R&D, Improved Loss Before Tax

P&L for the quarter ended (US\$m)	Mar 31, 2023	Mar 31, 2022
Total Revenue	1.9	2.0
Research and development	(7.0)	(8.2)
Manufacturing	(6.2)	(5.6)
Management & administration	(6.4)	(7.6)
Revaluation of contingent consideration	1.3	0.7
Revaluation of warrant liability	(0.5)	0.9
Other operating income & expenses	3.3	0.4
Finance costs	(5.0)	(3.9)
Loss before tax	(18.6)	(21.3)
Income tax benefit	~	~
Loss after tax	(18.6)	(21.3)

Revenue: Revenue predominately from royalties on sales of TEMCELL® HS Inj.¹ sold in Japan by our licensee.

Reduction in R&D Expenditure: reduced by US\$1.2 million (14%), down to US\$7.0 million for the quarter ended March 31, 2023. R&D expenses primarily supported preparations for the remestemcel-L BLA re-submission and preparations for pivotal studies for rexlemestrocel-L.

Continued Investment in Manufacturing: continued manufacturing activities to support the potential commercial launch for SR-aGVHD. On FDA approval US\$31.0 million of remestemcel-L pre-launch inventory will be recognized on the balance sheet.

Finance Costs include US\$3.8 million of non-cash expenditure for the quarter ended March 31, 2023 comprising accruing interest and borrowing costs.

Figures have been rounded.

1. TEMCELL® HS Inj. is a registered trademark of JCR Pharmaceuticals Co. Ltd.





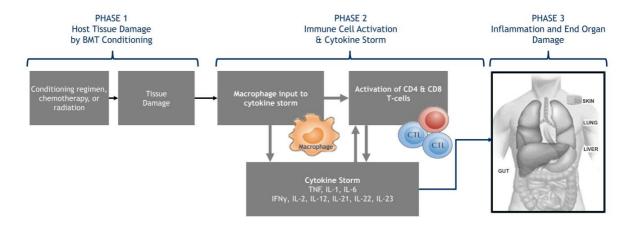
Remestemcel-L

Steroid-Refractory Acute Graft Versus Host Disease (SR-aGVHD)



Acute Graft Versus Host Disease (aGVHD)

Serious and Fatal Complication of Allogeneic Bone Marrow Transplantation (BMT)



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Modified from Blazar et al., Nature Reviews Immunology 12: 443 - 458

Remestemcel-L: Steroid-Refractory Acute Graft Versus Host Disease (SR-aGVHD) SR-aGVHD is associated with mortality rates as high as 90%

Treatment Options

lino d

Market Opportunity

- Corticosteroids are first-line therapy for aGVHD
- There is only one approved treatment for disease refractory to steroids and no approved treatment in the US for children under 12 years old
- In Japan, Mesoblast's licensee has received the only product approval for SR-aGVHD in both children and adults
- Acute GVHD is a lifethreatening complication that occurs in ~50% of patients receiving allogeneic bone marrow transplants (BMTs)¹

Burden of Illness

- Acute GVHD primarily affects skin, GI tract, and liver
- Steroid-refractory aGVHD is associated with mortality rates as high as 90%1,5 and significant extended hospital stay costs²
- More than 30,000 allogeneic BMTs performed globally (>20K US/EU) annually, -20% pediatric^{3,4}
- Approx. 1,500 allogeneic BMTs in children and adolescents in US⁴



1. Westin, J., Saliba, R.M., Lima, M. (2011) Steroid-refractory acute GVHD: predictors and outcomes. Advances in Hematology. 2. Anthem-HealthCore/Mesoblast claims analysis (2016). Data on file 3. Niederwieser D, Baldomero H, Szer J. (2016) Hematopoietic stem cell transplantation activity worldwide in 2012 and a SWOT analysis of the Worldwide Network for Blood and Marrow Transplantation foroup including the global survey. 4. HRSA Transplant Activity Report, CIBMTR, 2019 5. Act L, Naumann A, Toennies J (2019) Retrospective single center analysis of outcome, risk factors and therapy in steroid refractory graft-versus-host disease after allogeneic hematopoietic cell transplantation. Bone Marrow Transplantation.



Remestemcel-L for Children with SR-aGVHD

Improved Early Survival Across Three Studies involving more than 300 Treated Children

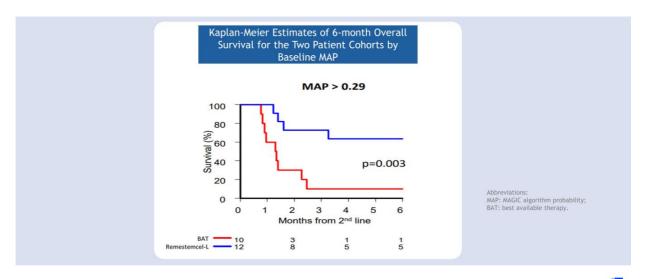
Day 100 Survival						
Remestemcel-L Protocol	Remestemcel-L	Matched Controls	Matched Control Protocol			
First Line Therapy after Steroids Treatment Setting						
Pediatric Subset of Protocol 280: randomized controlled P3, n=27 w/SR-aGVHD	79%	54%	Study Control Arm (n=13)			
Study 001, open-label P3, n=541 with 89% Grade C/D disease	74%	57%	MAGIC ² cohort, n=30 ³ propensity- controlled subset			
Salvage Therapy Treatment Setting						
Expanded Access Protocol (EAP275), n=241	66%	na				
EAP275, n=51 Grade D subset	51%	31%	CIBMTR dbase, n=327 ⁴ propensity controlled subset			

1. OVH0001 had 55 randomized patients, however one patient dropped out before receiving any dose of remestencel-L; 2. Mount Sinal Acute GVHI International Consortium (MAGIC) - a group of ten BMT centers throughout the US and Europe whose purpose is to conduct ground-breaking clinical trials in Of-Uhi, including developin informative biorepositories that assist in developing treatments that can guide GVHI therapy; 3. Two subjects in the MAGIC cohort had follow-up <100 days; these subjects are excluded from the respective survival analyses; 4. Data on file



Remestemcel-L Treatment Outcomes

Significantly Greater Survival in Highest-Risk Steroid-Refractory Patients with Baseline MAP ≥ 0.29



2021: 56:2869-2870

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Status of BLA for Remestemcel-L in Pediatric Patients with SR-aGVHD

New Data Under Review

- BLA resubmitted Jan 30, 2023
- BLA file considered by FDA to be a complete response, accepted for review, with PDUFA goal date August 2, 2023
- New data under review shows:
 - $_{\circ}$ Durable long-term survival of patients in Phase 3 trial
 - o Increased survival in high-risk patients compared with propensity matched controls
 - o Positive correlation between in vitro potency assay and survival
 - That the validated potency assay has low variability and can adequately demonstrate manufacturing consistency and reproducibility

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Status of BLA for Remestemcel-L in Pediatric Patients with SR-aGVHD

Manufacturing Inspection Conducted

- FDA has now conducted the Pre-License Inspection (PLI) of the manufacturing process for remestemcel-L
- FDA inspection did not result in the issuance of a Form 483, which is provided at the conclusion of an inspection if investigators have observed any conditions that in their judgment may constitute violations of the Food Drug and Cosmetic Act and related Acts
- **Section** Separation Separation (EIR) is expected to be issued by FDA in the coming weeks providing a detailed summary and final assessment of the inspection

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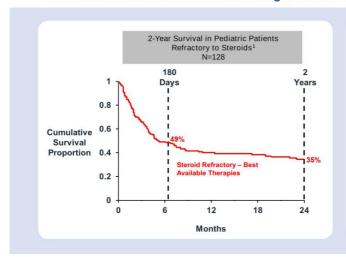
Remestemcel-L: Long-Term Survival Data a Cornerstone of BLA Resubmission to FDA for SR-aGVHD

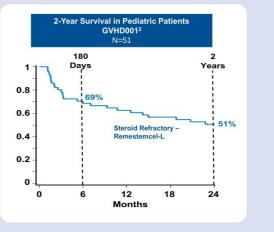
- Mesoblast provided new results from a four-year observational survival study performed by the Center for International Blood and Marrow Transplant Research (CIBMTR) on 51 evaluable patients with SR-aGVHD who were enrolled in Mesoblast's phase 3 clinical trial of remestemcel-L
- Overall survival in the remestemcel-L cohort was 63% at 1 year, 51% at 2 years, and 49% at 4 years
- The new long-term survival data provide assurance that the short-term day 28 responses and early survival through 180 days in the 54-patient Phase 3 trial in children with SR-aGVHD previously presented to FDA in the original BLA submission are unlikely to have arisen by chance
- These long-term survival outcomes are a cornerstone of the BLA resubmission

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Long term Survival in Pediatric Patients with SR-aGVHD Treated with Remestemcel-L

Presented at the 2023 Tandem Meeting of ASTCT and CIBMTR





1.Adapted and redrawn from Figure 2 of MacMillan, M.L. et al. Pediatric acute GVHD: clinical phenotype and response to upfront steroids. Bone Marrow Transplant 55, 165–171 (2020);
2.CIBMTR – Center for International Blood & Bone Marrow Transplantation Research. Clinical Outcomes of Pediatric Patients Treated with Remestemcel-L for Steroid-Refractory Acute Graft Versus-Host Disease on a Phase 3, Single- Arm, Prospective Study (Nov 2022)
ASTCT – American Society for Transplantation and Cellular Therapy; CIBMTR = Center for International Blood and Marrow Transplant Research



Extended Survival Data in Children with SR-aGVHD

Remestemcel-L Treatment Resulted in Durable Survival Over 4 Years

Survival Outcomes in Pediatric & Adult SR-aGVHD (Remestemcel-L data from the Center for International Blood and Marrow Transplant Research (CIBMTR) dbase) REACH2³ REACH14 Study GVHD001 MacMillan et al¹ Rashidi et al² REACH23 Treatment Remestemcel-L BAT⁵ BAT⁵ BAT⁵ Ruxolitinib Ruxolitinib N= 203 154 71 128 155 Subjects Children Children Adults **Adults** Adults Adults aGVHD Grade 88% Grade C/D 68% Grade 3/4 22% Grade 3/4 54% Grade 3/4 63% Grade 3/4 63% Grade 3/4 Year 1 Survival 63% 43% 40% --44% 49% Year 2 Survival 51% 35% 25% 36% 38% --Year 3 Survival 49% Year 4 Survival 49%

1. MacMillan ML et al. Pediatric acute GVHD: clinical phenotype and response to upfront steroids. Bone Marrow Transplant 2020; 55(1): 165-171

2. Rashidi A et al. Outcomes and predictors of response in steroid-refractory acute graft-versus-host disease: single-center results from a cohort of 203 patients. Biol Blood Bone Marrow Transplant 2019; 25(11): 165-171

4.Jagasia M et al. Ruxolitinib for the treatment of steroid-refractory acute GVHD (REACH1): a multicenter, open-label phase 2 trial. Blood. 2020 May 14; 135(20): 1739–174

5. RAT = Rest Available Treatment



The Immunomodulatory Activity of Remestemcel-L on T Cell Activation *in vitro* is a Direct Measure of Product Potency and Correlates with Survival in Pediatric Patients with SR-aGVHD

- The clinical benefits of remestemcel-L in SR-aGVHD are likely due to its immunomodulatory effects on alloreactive T cell activation/proliferation and inflammatory cytokine production
- An in vitro assay measuring inhibition of T-cell activation was established during development, prior to the Phase 3 trial, as a potential measure of product potency
- Assay was used to measure the ability of individual remestemcel-L lots to inhibit T cell activation prior to their use in EAP 275 and the Phase 3 trial GVHD 001
- Correlations between survival outcomes in EAP 275 and the Phase 3 trial GVHD 001 and potency of lots received as measured by inhibition of T-cell activation were performed

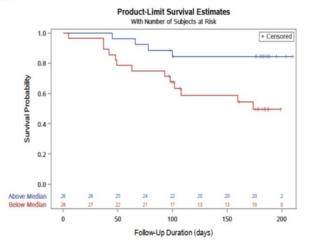
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Correlation of Remestemcel-L (Ryoncil) Lot Potency and 6-Month Survival

Analyses were performed evaluating in vitro/in vivo relationships in relation to inhibition of T-cell activation by product lots administered

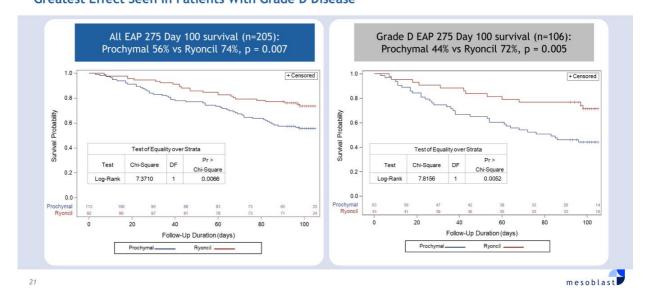
- There was an association between higher inhibition of T-cell activation by product lots received and Day 180 survival (85% Day 180 OS > median vs. 54% Day 180 OS ≤ median, p=0.01)
- The relationship between greater survival and level of inhibition of T-cell activation > median vs. ≤ median was most evident in patients with the most severe form of the disease and at highest risk for death:
 - Minnesota high risk (Day 180 OS 89% vs 50%, p=0.01)
 - MAGIC Algorithm Probability (MAP) ≥0.29 (Day 180 OS 100% vs. 17%, p=0.003)
 - IBMTR Grade D disease (Day 180 OS 91% vs. 50%, p=0.03)

Note that expected Day 180 survival for Grade D treated with best available therapy in CIBMTR registry is $\sim\!30\%$





Survival Significantly Improved in EAP 275 aGVHD Patients Receiving Higher Potency Ryoncil Product Made After 2008 Compared with Lower Potency Prochymal Product Made Before 2008 Greatest Effect Seen In Patients With Grade D Disease



Go to Market Strategy - Remestemcel-L in Pediatric Patients

Pre-Launch: Engagement of Highest Transplant Volume Centers with Experience Using Ryoncil

- Non-promotional activities including profiling centers, educate on disease awareness & unmet needs, and support payer engagement
- Hiring of select positions to build out commercial team has commenced
- Key Activities:
 - o Market Access initiates payer outreach
 - Medical provides education to payers
 - o Corporate leadership initiates engagement with Top 15 centers
 - o Regional sales directors lead center profiling
- Manufacturing preparation has been ongoing with US\$31.0 million of remestemcel-L pre-launch inventory in-hand

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Go to Market Strategy - Remestemcel-L in Pediatric Patients

Post-Approval Launch: Staged Approach Initially Targeting Highest Transplant Volume Centers

- Staged approach to launch based on centers with highest volume and experience with product
- Building out efficient, targeted sales force 15 highest volume centers account for ~50% of patients
- Key Activities:
 - o Initiate commercial onboarding & logistics at centers
 - $_{\circ}$ MSLs engage centers around medical & scientific needs
 - o Logistical and reimbursement support offered as needed
 - o Center certification for remestemcel-L administration





Rexlemestrocel-L

Chronic Low Back Pain due to Degenerative Disc Disease (CLBP)



Chronic Low Back Pain Due to Degenerative Disc Disease (CLBP) Impacts 7M+ Rexlemestrocel-L represents a potential new paradigm for the treatment of CLBP

Burden of Illness

Back pain causes more disability than any other condition¹

Inflicts substantial direct and indirect costs on the healthcare system, including excessive use of opioids in this patient population

Treatment Options

- Minimal treatment options for patients with chronic low back pain (CLBP) who fail conservative therapy include opioids and surgery
- 50% of opioid prescriptions are for CLBP²
- Durable improvement in pain has potential to reduce opioid use and prevent surgical intervention

Market Opportunity

Over 7m patients are estimated to suffer from CLBP due to degenerative disc disease (DDD) in each of the U.S. and E.U.5 ²⁻⁴



1. Williams, J., NG, Nawi, Pelzter, K. (2015) Risk factors and disability associated with low back pain in older adults in low-and middle-income countries. Results from the WHO Study on global ageing and adult health (SAGE), PloS One. 2015; 10(6): e0127880., 2.Decision Resources: Chronic Pain December 2015., 3. LEK & NCI opinion leader interviews, and secondary analysis., 4. Navigant: Commercial Assessment for a Proprietary Cell-Based Therapy for DDD in the U.S. and the EU3 - August 2014.



Rexlemestrocel-L / CLBP - Program Summary



Regulatory Alignment

Gained alignment with the FDA on the appropriate pivotal Phase 3 study

Seeks to replicate the significant reduction in pain seen at 12 and 24 months in our first Phase 3 trial



Phase 3 Protoco

FDA has agreed with Mesoblast plans for mean pain reduction at 12 months as the primary endpoint of the pivotal trial

Functional improvement and reduction in opioid use as secondary endpoints



In Prep for US/EU Submissions

The planned Phase 3 Program will include 80% of subjects in the US and 20% from the EU, to support regulatory submissions to FDA and EMA



Commence Pivotal P3 Mid-CY2023

RMAT designation for CLBP received from FDA February 2023

Commencement of pivotal trial mid-CY2023

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Regenerative Medicine Advanced Therapy (RMAT) Designation Granted by FDA for Rexlemestrocel-L in the treatment of CLBP

RMAT designation provides all the benefits of Breakthrough and Fast Track designations, including rolling review and eligibility for priority review on filing of a Biologics License Application (BLA)

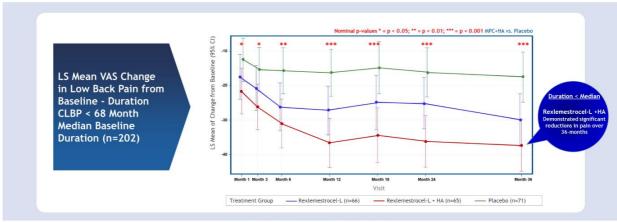
Results from the trial showed that:

- A single injection of rexlemestrocel-L+HA into the lumbar disc resulted in significant reduction in pain compared with saline control at 12 and 24 months across all subjects (n=404)
- Pain reduction through 36 months was seen in the subset of patients using opioids at baseline (n=168) with the rexlemestrocel-L+HA group having substantially greater reduction at all time points compared with saline controls
- Among patients on opioids at baseline, despite instructions to maintain existing therapies throughout the trial, at 36 months 28% who received rexlemestrocel-L+HA were not taking an opioid compared with 8% of saline treated controls

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Phase 3 Trial Outcomes based on a Single Injection of Rexlemestrocel-L + HA Results in More than Three Years of Pain Reduction

Greatest pain reduction was observed in the pre-specified population of subjects with CLBP duration shorter than the baseline study median of 68 months (n=202) with significantly greater reduction (nominal p-value < 0.05) at all time points analyzed over 36 months compared with saline controls



VAS=Visual Analog Score; HA=Hyaluronic Acid

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Rexlemestrocel-L

Chronic Heart Failure Reduced Ejection Fraction (HFrEF)



Rexlemestrocel-L / HFrEF - Program Summary

Defining the Regulatory Path to FDA Approval



Significant Need

Cardiovascular disease remains the leading cause of death in the US

CHF is a progressive disease with a high mortality approaching 50% at 5 years, and at least 75% after an initial hospitalization



Promising Data

Recent data from the DREAM-HF P3 trial showed improved LVEF at 12 months, preceding long-term reduction in MACE events across all treated patients

LVEF is a potential early surrogate endpoint



Targeting Inflammation

Effects on LVEF and MACE outcomes are enhanced in patients with active inflammation

Trial results from class II to end-stage HFrEF now support a MOA by which rexlemestrocel-L reverses inflammation-related endothelial dysfunction





FDA Meeting

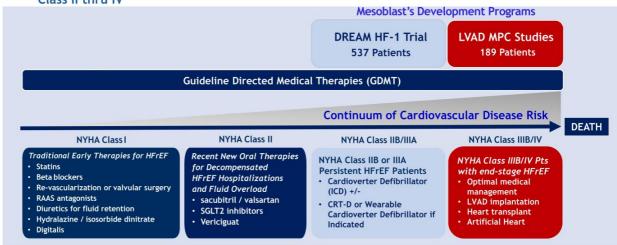
Mesoblast plans to meet with the FDA CY2023 under its RMAT designation to discuss the potential pathway to approval

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Patients Experience Progressive Vascular Dysfunction and Heart Failure

Rexlemestrocel-L has the potential to improve endothelial dysfunction in patients from Class II thru IV



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ORIGINAL INVESTIGATIONS

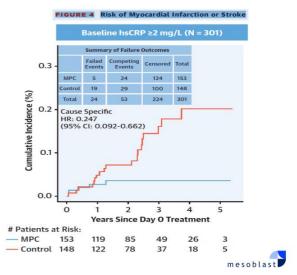
Randomized Trial of Targeted Transendocardial Mesenchymal Precursor Cell Therapy in Patients With Heart Failure



Emerson C. Perin, MD, PhD, Renneth M. Borow, MD, Timothy D. Henry, MD, Farrell O. Mendelsohn, MD, Leslie W. Miller, MD, Elizabeth Swiggum, MD, Eric D. Adler, MD, David H. Chang, MD, R. David Fish, MD, Alain Bouchard, MD, Margaret Jenkins, BSc (Hoss), Alex Yaroshinsky, PhD, Jack Hayes, MA, Olga Rutman, PhD, Christopher W. James, PA, Eric Rose, MD, Sliviu Itescut, MD, Barry Greenberg, MD.

Randomized, double-blind, controlled, 537 patient Phase 3 trial of rexlemestrocel-L over mean followup of 30 months showed:

- Improved LVEF from baseline to 12 months in all patients - maximal benefit seen in patients with active inflammation
- Reduced risk of MI or stroke by 57% in all treated patients, and by 75% in patients with inflammation
- Reduced risk for time-to-first Major Adverse Cardiac Event (MACE), defined as cardiovascular death, MI or stroke, by 28% in all patients, and by 37% in patients with inflammation



Rexlemestrocel-L - Two Pivotal Studies in Chronic Heart Failure (CHF)

Mesoblast's Development Programs Assess the Impact of Intra-cardiac Administration of Rexlemestrocel-L Across the Continuum of Disease from Mild/Moderate to End-stage Severity

MPC Study Design	LVAD-MPC Study #2	DREAM-HF Trial			
Treated Patients	159	537			
Study Design	Prospective, randomized, Multi-center, double-blinded, single dose, sham-controlled, parallel group efficacy & safety studies of allogeneic mesenchymal precursor cells (MPCs)				
Pathologies of ↑ed Importance	LV Systolic Function, Inflammati	on, Mortality, Major Morbidities			
Product	Mesenchymal Precursor Cells with defined Cardiac Potency (Rexlemestrocel-L)				
Cell Preparation, Manufacturing, Central Storage and Shipping	Same facilities and vendors in both studies				
Physical Location Used for Cell Administration at the Study Site	Operating room Cardiac catheterization laboratory				
Patient Analysis Population	End-stage chronic HFrEF candidate for LYAD implant (NYHA Class IIIB or IV), ischemic or non-ischemic etiology (N=159: MPC=106, CTRL=53) Chronic HFrEF (Late NYHA Class II or IIIA ischemic or non-ischemic etiology (N=537: MPC=265, CTRL=272)				
Cell Dose in MPC	150 million cells administered as 15-20 individual injections during a single procedure				
Route of Cell Administration	Epicardial injection Transendocardial injection				
Target of Cell Administration	Mid-wall of left ventricle				

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