



2019 Annual General Meeting Dr Silviu Itescu, Chief Executive

November 27, 2019

ASX: MSB; Nasdaq: MESO

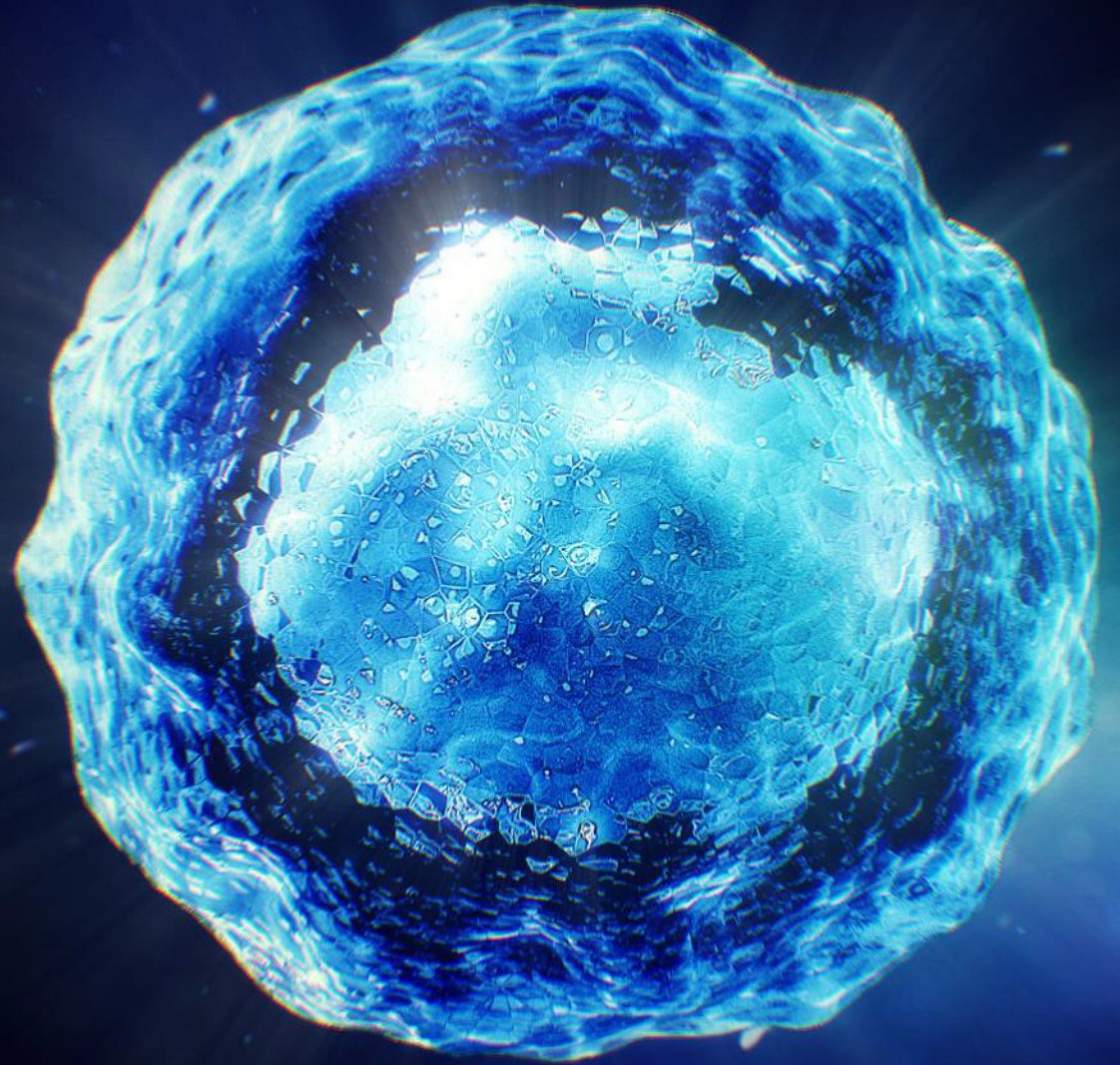


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This presentation includes forward-looking statements that relate to future events or our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements 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. All statements other than statements of historical facts contained in this presentation are forward-looking statements. Words such as, but not limited to, “believe,” “expect,” “anticipate,” “estimate,” “intend,” “plan,” “targets,” “likely,” “will,” “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 trends that we 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 safety or efficacy of, or potential applications for, Mesoblast’s adult stem cell technologies; expectations regarding the strength of Mesoblast’s intellectual property, the timeline for Mesoblast’s regulatory approval process, and the scalability and efficiency of manufacturing processes; expectations about Mesoblast’s ability to grow its business and statements regarding its relationships with current and potential future business partners and future benefits of those relationships; statements concerning Mesoblast’s share price or potential market capitalization; and statements concerning Mesoblast’s capital requirements and ability to raise future capital, among others. 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. 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 and risks that may cause Mesoblast’s actual results, performance or achievements to be materially different from those which may be expressed or implied by such statements, include, without limitation: risks inherent in the development and commercialization of potential products; uncertainty of clinical trial results or regulatory approvals or clearances; government regulation; the need for future capital; dependence upon collaborators; and protection of our intellectual property rights, among others. Accordingly, you should not place undue reliance on these forward-looking statements. We do not undertake any obligations to publicly update or revise any forward-looking statements, whether as a result of new information, future developments or otherwise.

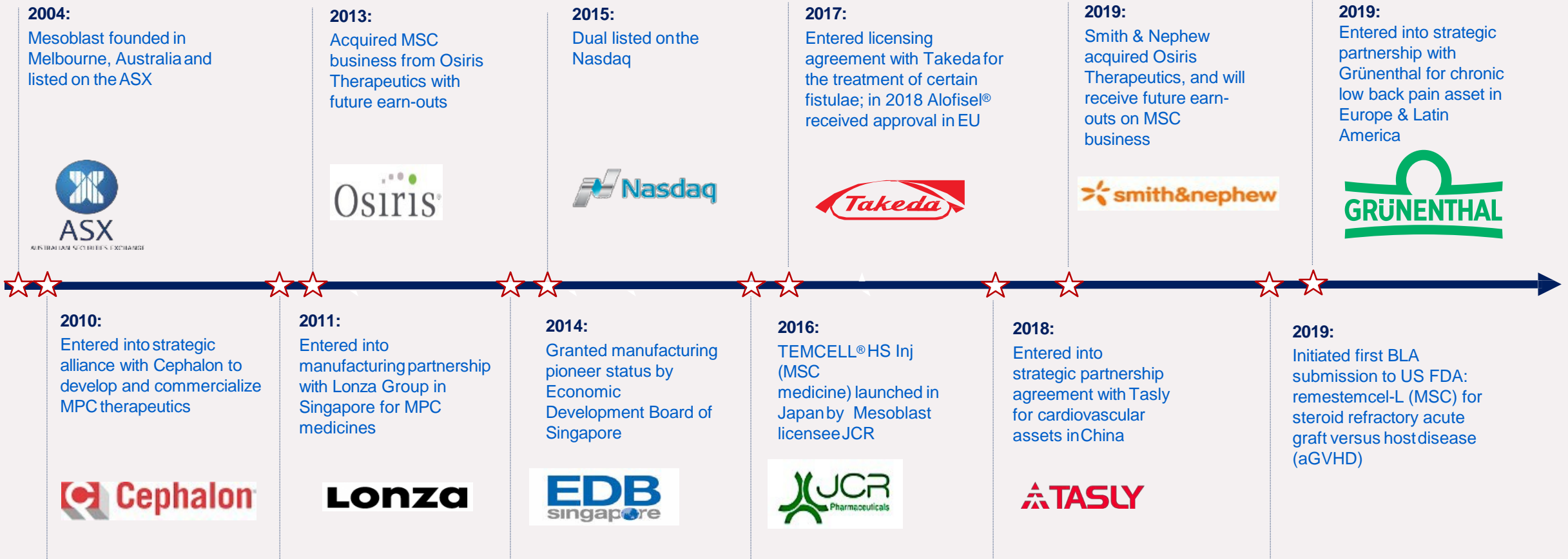
Our Mission

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



Corporate History

Over a decade of scientific, manufacturing, clinical development and corporate development experience targeted at bringing to market allogeneic, off-the-shelf cellular medicines for inflammatory diseases



Premier Global Cellular Medicines Company



Innovative Technology Platform¹

- Innovative technology targets some of the most severe disease states refractory to conventional therapies
- Well characterized multimodal mechanisms of action
- Underpinned by extensive, global IP estate

Late Stage Pipeline

- Initiated rolling filing with US FDA for approval for steroid-refractory aGVHD
- Two Phase 3 product candidates – heart failure and back pain – with near term US trial readouts
- Back pain Phase 3 product candidate partnered in Europe & Latin America with Grünenthal
- Heart failure Phase 3 product candidate partnered in China

Commercialization

- Building US sales force for potential aGVHD product launch
- Industrial-scale manufacturing to meet commercial demand
- First approved products commercialized by licensees in Japan² and Europe³
- Continued growth in royalty revenues from strategic partnerships

1. Mesenchymal precursor cells (MPCs) and their culture-expanded progeny mesenchymal stem cells (MSCs).

2. Licensee JCR Pharmaceuticals Co., Ltd. received the first full PMDA approval for an allogeneic cellular medicine in Japan and markets this product under its trademark, TEMCELL® Hs Inj.

3. Licensee Takeda received first central marketing authorization approval from the European Commission for an allogeneic stem cell therapy and markets this product under its trademark Alofisel®.

Commercial Scale Manufacturing Capability

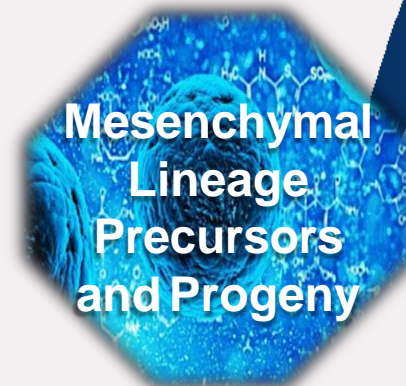
- Scalable allogeneic “off-the-shelf” cellular medicine platform
- Manufacturing meets stringent criteria set by international regulatory agencies including FDA and EMA
- Robust quality assurance processes ensure final product with batch-to-batch consistency and reproducibility
- Culture expansion scalable for near term commercial needs
- Proprietary xeno-free technologies being developed to enable sufficient yields for long term global commercial supply
- Next generation processes using 3D bioreactors to reduce labor and drive down cost of goods



Lonza contract manufacturing facility in Singapore

Global IP Estate Provides Substantial Competitive Advantage

- ~1,000 patents and patent applications (68 patent families) across all major jurisdictions
- Covers composition of matter, manufacturing, and therapeutic applications of mesenchymal lineage cells
- Enables licensing to third parties for different indications, when in alignment with our corporate strategy e.g. TiGenix (subsequently acquired by Takeda)
- Provides strong global protection against competitors seeking to develop products in areas of core commercial focus



**Mesenchymal
Lineage
Precursors
and Progeny**

Markets
U.S., Europe,
China, and
Japan

Sources
Allogeneic, Autologous,
(Bone Marrow, Adipose,
Dental Pulp, Placenta),
Pluripotent
(iPS)

Diseases
All Tier 1 & Tier 2
Indications, and multiple
additional conditions

Partnerships and License Agreements



- Strategic partnership to develop and commercialize MPC-06-ID for chronic low back pain due to degenerative disc disease in patients who have exhausted conservative treatment options
- Grünenthal will have exclusive commercialization rights for Europe and Latin America
- Mesoblast will receive up to US\$150 million in upfront and milestone payments prior to product launch, as well as further commercialization milestone payments
- Cumulative milestone payments could exceed US\$1 billion depending on the final outcome of Phase III studies and patient adoption. Mesoblast will also receive tiered double digit royalties on product sales



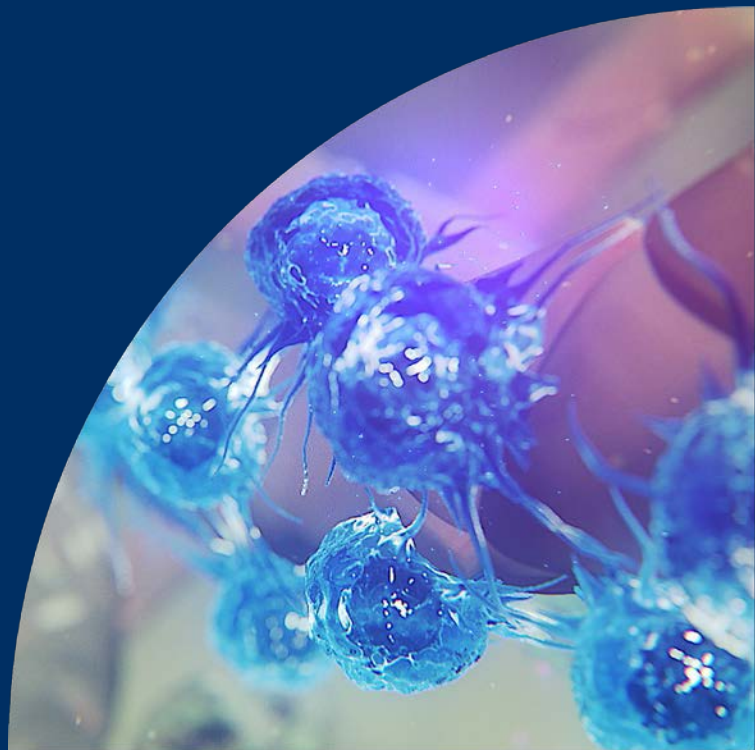
- JCR has rights to use our MSC technology to treat acute GVHD in Japan
- Its product TEMCELL® HS Inj. was the first fully approved allogeneic cellular medicine in Japan
- Royalties and milestones received in last 12 months exceed US\$6.0 million
- License expanded to cover use in epidermolysis bullosa (EB), a highly debilitating and sometimes lethal skin disease and hypoxic ischemic encephalopathy (HIE) in newborns



- Patent license agreement entered in Dec 2017 with Takeda (formerly TiGenix NV) providing exclusive access to certain IP for local treatment of perianal fistulae
- Mesoblast received €10 million in payments and is eligible to receive up to an additional €10 million in milestone payments (€20 million in total payments) plus royalties upon commercial sales of Alofisel® worldwide

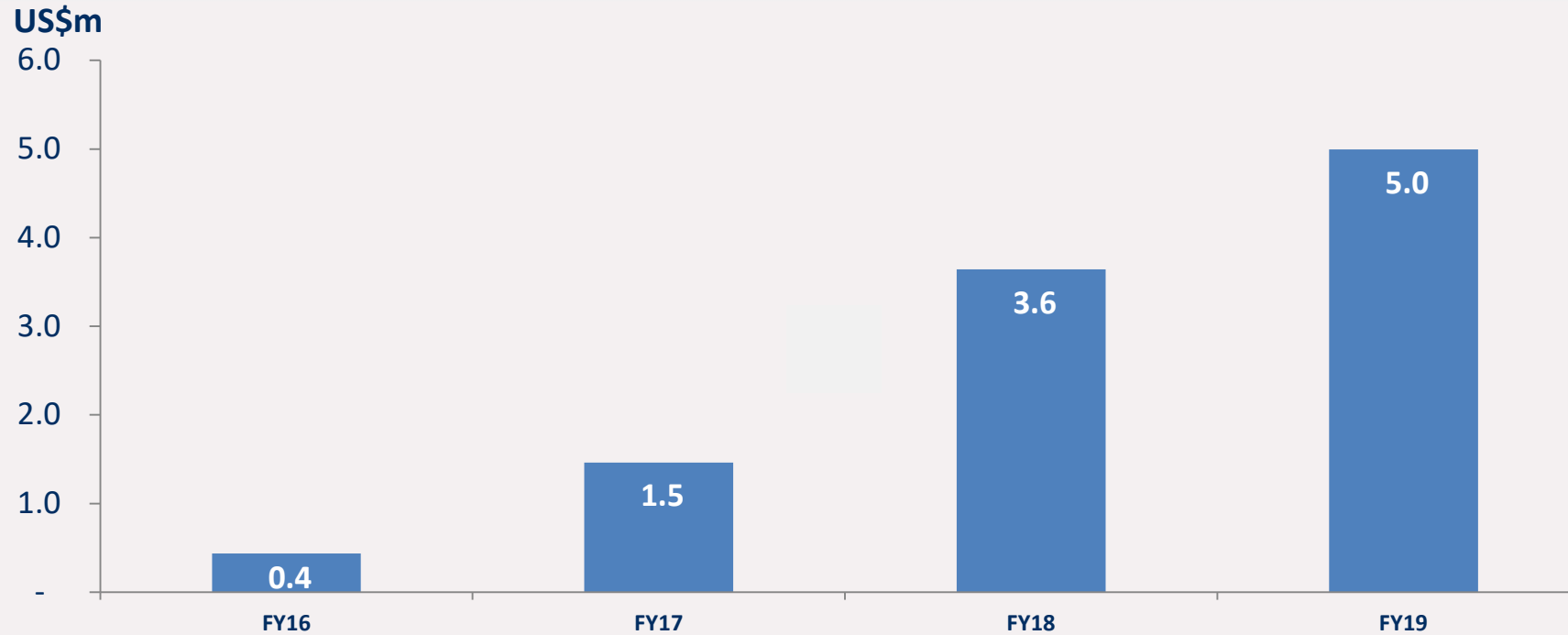


- Exclusive cardiovascular rights in China
- Mesoblast received US\$40 million on closing, and is eligible to receive additional milestones and royalties



Continued Growth in Revenues &
Strong Balance Sheet

Revenues from Royalties on Japan Product Sales – 37% Year on Year Growth



- 37% growth in royalty revenue for the FY2019 year compared to FY2018 from sales of TEMCELL in Japan for SR-aGVHD by Mesoblast licensee JCR Pharmaceuticals Co. Ltd.

All results on this slide are reported in constant currency.

Substantial Increase in Revenues for the Quarter Ending September 30, 2019

For the quarter ending (US\$m)	September 30, 2019	September 30, 2018	September 30, 2017
Upfront/milestone revenue	15.0	10.5	0.5
Commercialization revenue	1.9	1.0	0.6
Interest revenue	0.1	0.1	0.1
Total revenue	17.0	11.6	1.2

- 85% growth in commercialization revenue from royalty income on sales of TEMCELL® HS. Inj.¹
- Strategic partnerships drive upfront and milestone revenues
 - US\$15.0 million for an upfront milestone payment for the strategic partnership with Grünenthal GmbH in the first quarter FY2020
 - US\$10.0 million from licensee Tasly Pharmaceutical Group in the first quarter FY2019
 - US\$0.5 million from licensee JCR in the first quarter FY2019

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

Figures are rounded

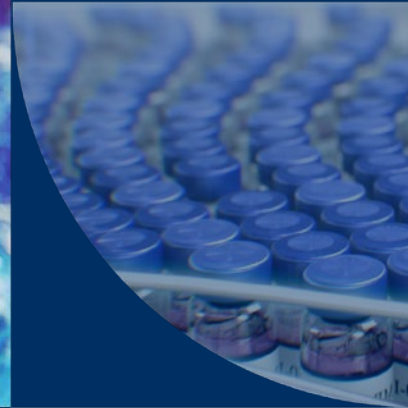
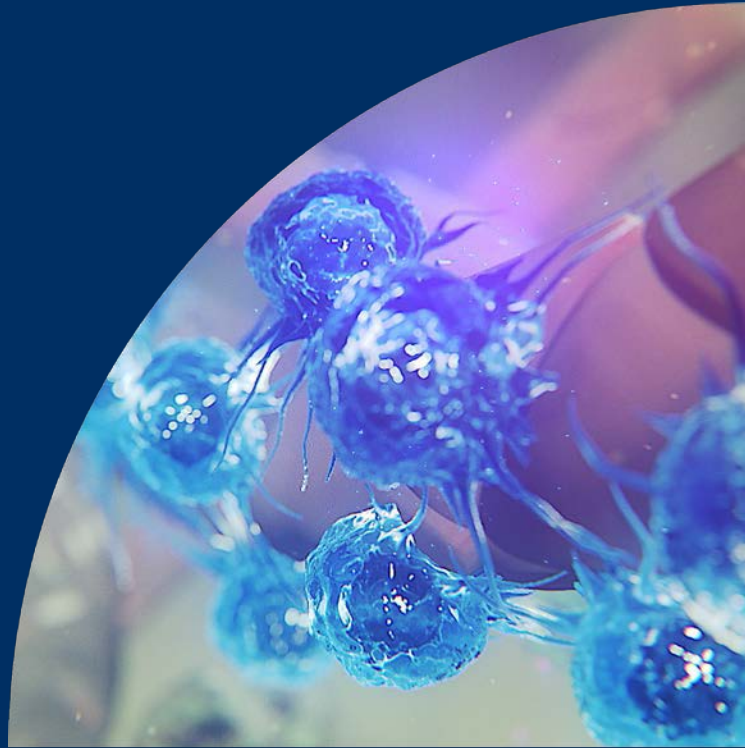
Strong Balance Sheet and 20% Reduction in Operating Net Cash Outflows

As of (US\$m)	September 30, 2019	June 30, 2019
Cash on Hand	34.5	50.4
Pro forma cash on hand	100.0	50.4

- Pro forma cash on hand at September 30, 2019 includes a US\$15.0 million upfront payment for the strategic partnership with Grünenthal received on October 1, 2019 and US\$50.5 million of gross cash proceeds from an institutional capital raise received on October 3, 2019.
- Over the next 12 months, we may receive up to an additional US\$30.0 million in milestone payments under the strategic partnership with Grünenthal and a further US\$35.0 million under the arrangements with Hercules Capital and NovaQuest, subject to achievement of certain milestones.

For the quarter ending (US\$m)	September 30, 2019	September 30, 2018	September 30, 2017
Operating net cash outflows	(15.6)	(19.5)	(20.4)

- 20% (US\$3.9 million) reduction in net operating cash outflows for the three months ended September 30, 2019.



Operational Highlights

Acute Graft Versus Host Disease (aGVHD)

Significant market opportunity for Remestemcel-L

Burden of Illness

- aGVHD is a life-threatening complication that occurs in ~50% of patients receiving allogeneic bone marrow transplants (BMTs)¹
- Steroid-refractory aGVHD is associated with **mortality rates as high as 90%^{1,7} and significant extended hospital stay costs²**

Minimal Treatment Options

- There is only one approved treatment for SR-GVHD and **no approved treatment for children under 12 years old, outside Japan**
- In Japan, Mesoblast's licensee has received the only product approval for SR - aGVHD in both children and adults

Market Opportunity

- >30,000 allogeneic BMTs performed globally (>20K US/EU) annually, ~20% pediatric^{3,4}
- Our licensee, JCR Pharmaceuticals Co., Ltd launched TEMCELL[®]HS Inj.⁵ in Japan for SR-aGVHD in 2016; reimbursed up to ~\$USD195k⁶
- **SR-aGVHD represents \$USD > 700m US/EU market opportunity^{4,8}**



1. Westin, J., Saliba, RM., 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 Group including the global survey. 4. Source: CIBMTR Current Uses and Outcomes of Hematopoietic Cell Transplantation 2017 Summary. Passweg JR, Baldomero, H (2016) Hematopoietic stem cell transplantation in Europe 2014: more than 40,000 transplants annually. 5. TEMCELL is the registered trademark of JCR Pharmaceuticals Co. Ltd. 6. Based on a ¥JPY = \$USD 0.009375 spot exchange rate on market close on November 11, 2016. Amounts are rounded. Source: Bloomberg. 7. Axt 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*. 8.Data on file

Remestemcel-L: U.S. Regulatory and Commercial Strategy



- US strategy for remestemcel-L informed by TEMCELL sales experience in Japan
- Rolling BLA submission to FDA
- Fast Track designation provides eligibility for FDA priority review
- Commercialization strategy in place for product launch
- Ramp-up for inventory build
- Building out efficient, targeted sales force - 15 centers account for ~50% of patients

Remestemcel-L: SR-aGVHD is Associated with Significant Burden of Illness in Children in the U.S.¹



1. European Hematology Association 2019 Congress Meeting: Abstract PF718, The economic and humanistic burden of graft-versus-host disease (GVHD) in pediatric patients: A systematic literature review (SLR)

Remestemcel-L: Results from Providers/Payers Indicate Near Maximal Rating on Product Attributes¹



(n=20)

0

Reaction to
Tested Target Profile²

Median
Response

6

7

Max Rating Product
Attributes

Most Significant Value Drivers for Remestemcel-L

- Day 28 overall response rate (especially grade C/D)
- Day 100 & Day 180 Survival rates
- No increase in infections
- Large clinical data set (n~300)
- Ability to administer the drug outpatient
- Significant reduction in ICU stay

1. Data onfile.

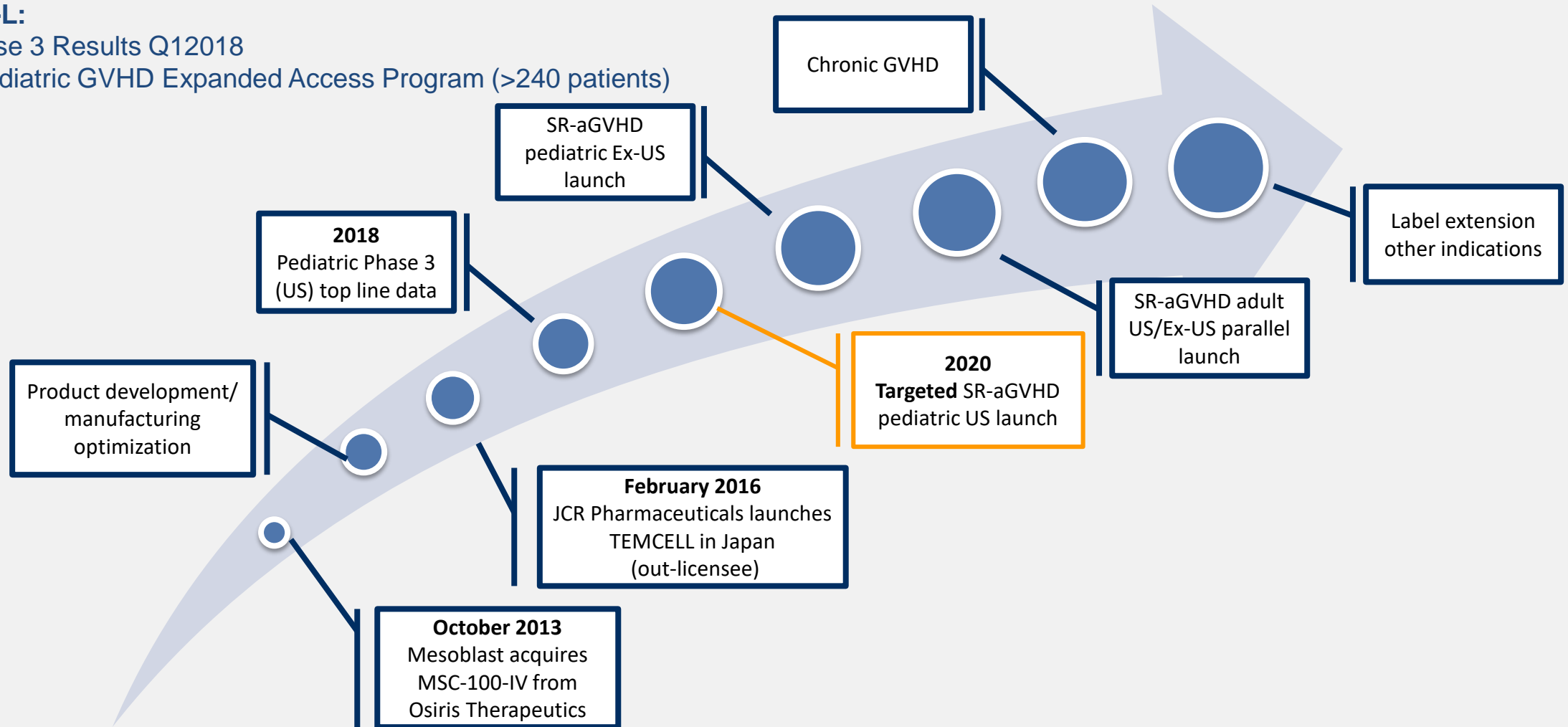
2. ZS Associates June 2018 Qualitative Market Research: MCO Medical Directors n=5, Transplant Center Directors n=5, Hospital Pharmacy Directors n=5, AMC-based Hem/Oncs / KOLs n=3

Remestemcel-L: Life Cycle Strategy

Mesoblast has over 10 years of experience in hematology-oncology space

Remestemcel-L:

- Positive Phase 3 Results Q12018
- Large US Pediatric GVHD Expanded Access Program (>240 patients)



Remestemcel-L for Acute GVHD

Recent Highlights

- Continued growth in revenues from royalties on sales of TEMCELL in Japan for steroid refractory aGVHD
 - Product adoption and reimbursement seen in the Japan GVHD market for TEMCELL informs Mesoblast US commercial strategy for remestemcel-L in aGVHD
 - US addressable market for SR aGVHD in children and adults is expected to be approximately 8-fold larger than Japan, a major commercial opportunity due to greater patient numbers, incidence and pharmacoeconomics
- Mesoblast entered into an agreement with Lonza for commercial product manufacture in line with the corporate strategy to facilitate appropriate inventory build ahead of the planned launch of remestemcel-L

Key milestones

- Upcoming filing of completed Biologic License Application (BLA) submission to the US Food and Drug Administration (FDA)
- Within a maximum of 60 days after receipt of the complete application, Mesoblast will be informed by FDA of acceptance of the filing, and whether the BLA has received Priority Review under its existing Fast Track designation
- If approved, the US launch of remestemcel-L is expected to occur next year

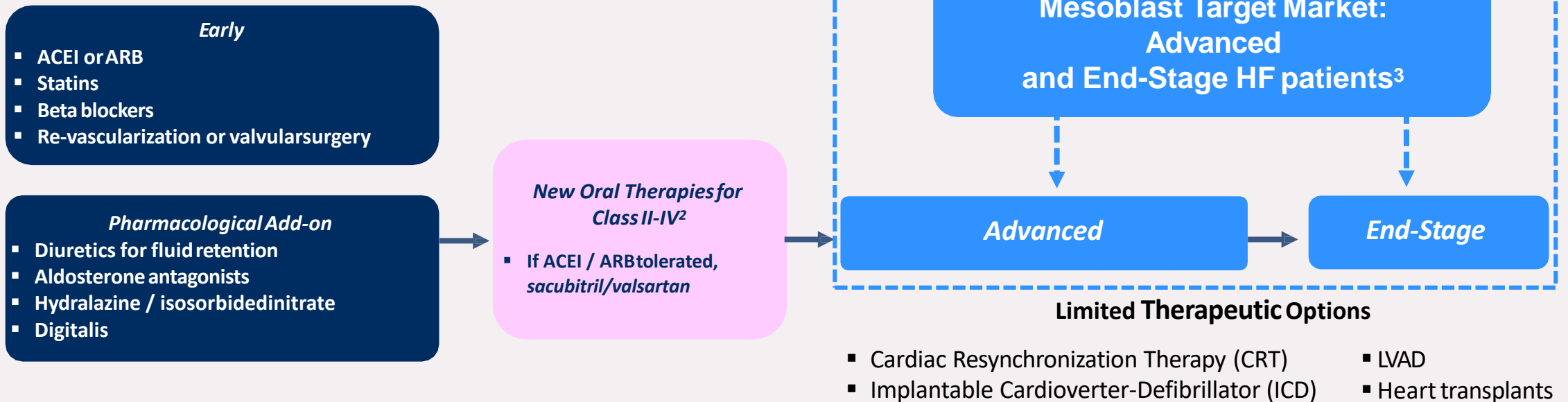
Advanced and End-Stage Heart Failure

Common Treatment Pathway in Progressive Heart Failure¹

Class I

Progressive Vascular (Endothelial) Dysfunction and Heart Failure

Class IV



1. Source: Simon-Kucher & Partners 2017. Primary research 2017; Payers n=35, KOLs n=15, Cath lab managers n=4.

2. Corlanor® (ivabradine) approved by FDA (April 2015). ENTRESTO® (sacubitril/valsartan) approved by FDA (July 2015).

3. GlobalData-PharmaPoint Heart Failure (2016); McMurray et al., 2012; Yancy et al., 2013, 2016 ACC/AHA/HFSA Focused Update on New Pharmacological Therapy for Heart Failure: An Update of the 2013 ACCF/AHA Guideline for the Management of Heart Failure.

Advanced Heart Failure

Revascor – Commercial opportunity

Burden of Illness

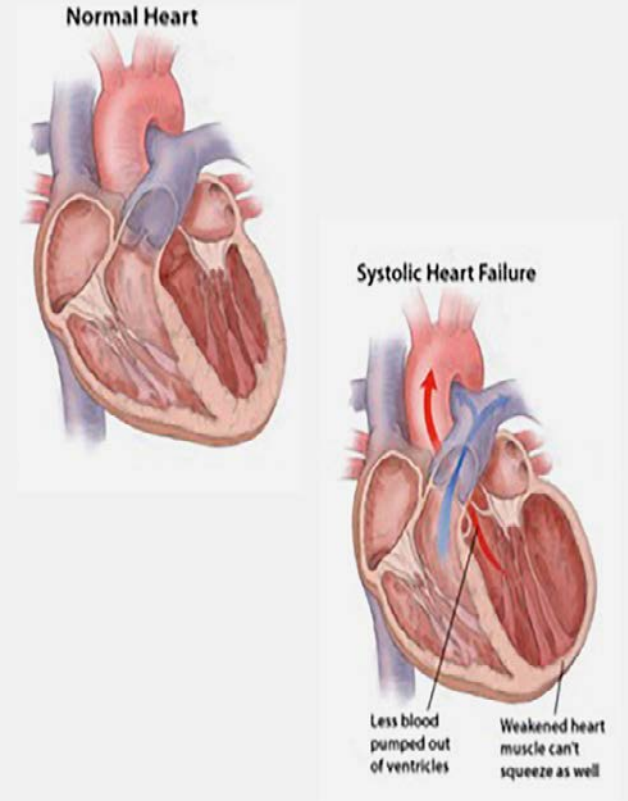
- ~ 8 million patients with chronic heart failure by 2030 in US alone¹
- 17-45% globally die within 1 year of hospital admission¹
- Majority of advanced heart failure patients die within 5 years¹

Limited Options / Unmet Need

- Despite recent advances in newly approved drugs, limited treatment options are available for patients with advanced heart failure²
- New therapies to reduce hospitalizations and mortality in patients with advanced heart failure who have failed other therapies
- Area of great need: NYHA class III-IV where event rate is highest

Market Opportunity

- US healthcare costs for NYHA class II-IV patients \$US115bn/year⁴
- Hospitalizations account for ~69% of expenditure³⁻⁵
- **Multi-billion dollar annual market opportunity in US^{4,5}**



1. Heart Failure: Preventing disease and death worldwide – European Society of Cardiology 2014., 2. ACC/AHA/HFSA Focused Update on New Pharmacological Therapy for Heart Failure: An Update of the 2013 ACCF/AHA Guideline for the Management of Heart Failure., 3. Gurwitz JH, Magid DJ, Smith DH, et al. Contemporary Prevalence and Correlates of Incident Heart Failure with Preserved Ejection Fraction. The American Journal of Medicine. 2013;126(5):393-400. Derived by applying a HF-REF prevalence rate of 32.6% to the U.S. rate of 5.7m U.S. patients., 4.A Reevaluation of the Costs of Heart Failure and its Implications for Allocation of Health Resources in the United States. Voigt J. Clinl.Cardiol. 37, 5, 312-321 (2014)., 5.The Medical and Socioeconomic Burden of Heart Failure: A Comparative Delineation with Cancer. Dimitrios, F. International Journal of Cardiology (2015), doi: 10.1016/j.ijcard.2015.10.172.

Advanced Heart Failure

Revascor - Phase 3 trial fully enrolled



- Trial design is 1:1 randomized, controlled, double blinded; conducted over 55 sites across North America using 150 million cell dose vs control
- Events-driven Phase 3 trial completed enrollment of 566 patients in February 2019
- Primary endpoint: reduction in recurrent heart failure-related major adverse cardiac events such as heart failure-related hospitalizations and cardiac death
- Secondary endpoint: reduction in terminal cardiac events
- Target patient population enriched for those likely to be both highest risk for events and greatest responders to Revascor therapy

Revascor for Advanced Heart Failure



Key milestones

- Full accrual of primary endpoints events in the Phase 3 trial of Revascor for advanced heart failure around the end of CY19
- Data read-out for this Phase 3 trial planned in H1 CY20
- Results will be considered pivotal to support regulatory approval in the US, as well as China through the Tasly partnership

End-Stage Heart Failure

Revascor – Commercial opportunity in reducing GI bleeding in patients with LVADs

Burden of Illness

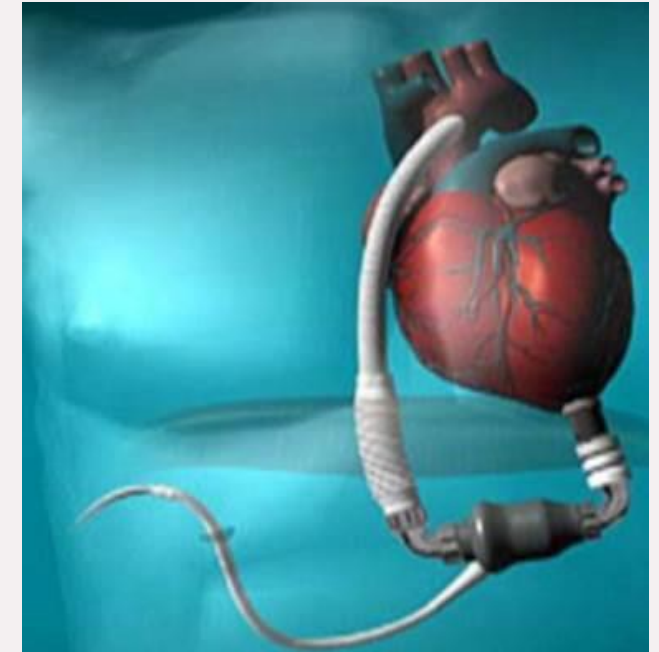
- In the US there are ~ 250,000–300,000 patients annually who suffer from advanced systolic heart failure (NYHA Class III–IV)¹
- Despite optimal medical therapy, mortality exceeds 50% in class IV patients¹

Ongoing Unmet Need

- LVADs have improved survival, but morbidity remains high with patients on average experiencing greater than two hospitalization annually²
- Gastrointestinal (GI) bleeding is the leading cause of non-surgical hospitalizations in LVAD patients²
- **Device attributable major adverse events (DAEs) can cost on average \$USD46.5k per hospitalization²**

Market Opportunity

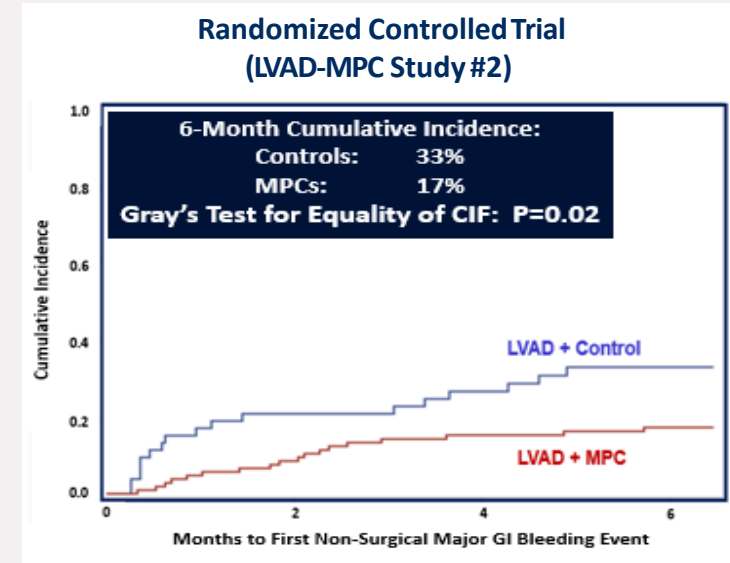
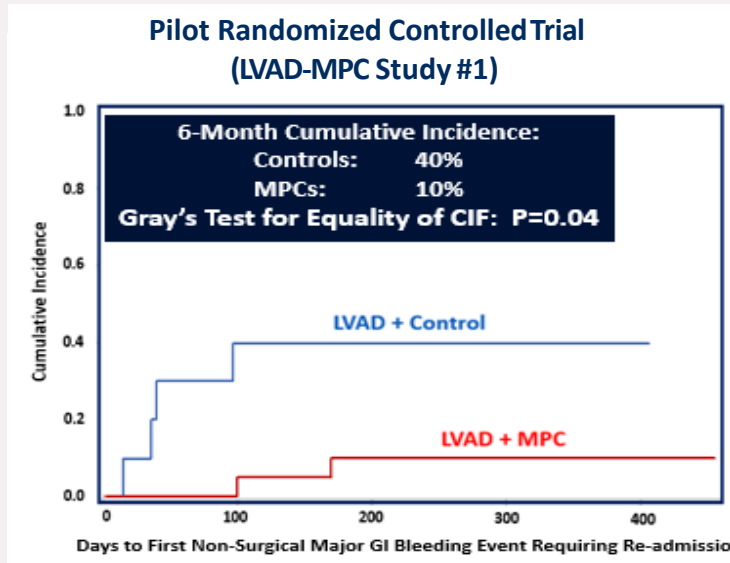
- ~ 4,500 – 5,500 assist devices are implanted annually in the US^{3, 4}
- **US LVAD market is growing double-digit CAGR and represents significant market growth opportunity^{3,4}**
- US targeted commercial footprint provides low cost market entry



End-Stage Heart Failure in LVAD Patients

Revascor reduced GI bleeding events causing hospitalizations in two randomized trials

MPCs prolong time-to-first major GI bleeding event and reduced cumulative major GI bleeding events in two randomized controlled trials in LVAD patients^{1,2}



MPC (n = 20)	Control (n = 10)	P-value
Event Rate (100-Pt-Months)	Event Rate (100-Pt-Months)	
4.2	14.2	0.06

MPC (n = 106)	Control (n = 53)	P-value
Event Rate (100-Pt-Months)	Event Rate (100-Pt-Months)	
3.8	15.9	<0.001

Rate of major GI bleeding events over six months in LVAD patients reduced by 70% and 76% with MPCs in two randomized controlled trials

Revascor for End-Stage Heart Failure in LVAD Patients



Recent Highlights

- Mesoblast and the International Center for Health Outcomes Innovation Research (InCHOIR) at the Icahn School of Medicine at Mount Sinai in New York have agreed on the protocol for a confirmatory Phase 3 trial of Revascor
- In line with FDA guidance, the primary endpoint will be reduction in major mucosal bleeding events, and key secondary endpoints will be improvement in various parameters of cardiovascular function
- Revascor is being developed for these patients under existing FDA Regenerative Medicine Advanced Therapy (RMAT) and Orphan Drug Designations

Key milestones

- Initiation of confirmatory Phase 3 trial of Revascor for the reduction of mucosal bleeding in end-stage heart failure patients implanted with an LVAD
 - Results will be considered pivotal to support regulatory approval in the US

MPC-06-ID: A New Paradigm for Treatment of Chronic Low Back Pain Due to Degenerative Disc Disease

Burden of Illness

- Back pain causes more disability than any other condition¹
- Inflicts substantial direct and indirect costs on the healthcare system^{1,2}, including excessive use of opioids in this patient population

Minimal Treatment Options

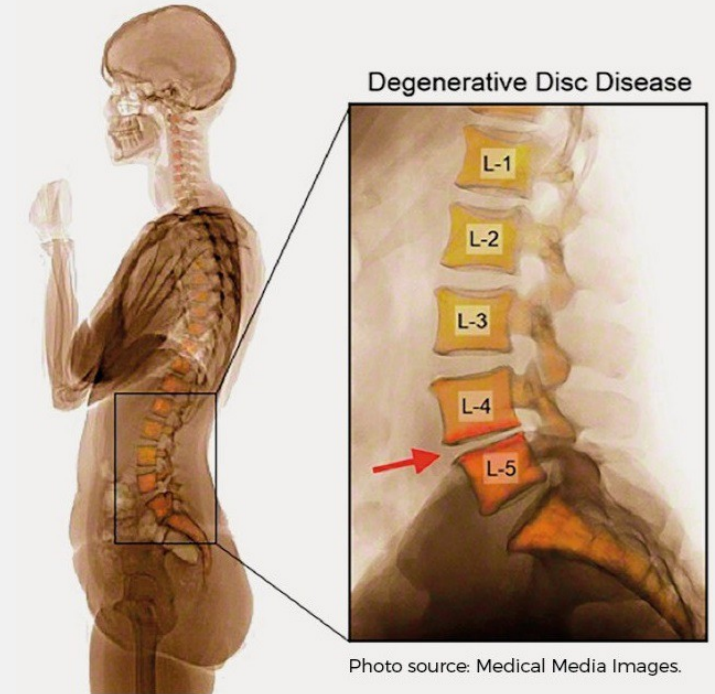
- Minimal treatment options for patients with chronic low back pain (CLBP) who fail conservative therapy include opioids and surgery
- 50% of opioid prescriptions are for CLBP

Unmet Need

- Disease modifying therapy for durable improvement in pain and function has potential to prevent progression to opioid use or 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.³⁻⁶
- MPC-06-ID development program targets over 3.2m patients in U.S. and 4m in E.U.5 with moderate to severe disease



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. Simon, J., McAuliffe, M., Shamim, F. (2015) Discogenic Low Back Pain. Phys Med Rehabil Clin N Am 25 (2014)305–317., 3.Decision Resources: Chronic Pain December 2015., 4. LEK & NCI opinion leader interviews, and secondary analysis., 5. Navigant: Commercial Assessment for a Proprietary Cell-Based Therapy for DDD in the U.S. and the EU3 – August 2014., 6. HealthCare Utilization and Cost of Discogenic Lower Back Pain in the US – Anthem/HealthCore.

MPC-06-ID – Development Strategy for US & Europe



- Phase 3 trial in chronic low back pain completed enrolment in March 2018 with 404 patients randomized to receive MPC-06-ID or placebo
- Initiate confirmatory Phase 3 trial in Europe in partnership with Grünenthal
- Complete commercial manufacturing in partnership with Grünenthal
- Results of confirmatory Phase 3 clinical trials in US and Europe, together with commercial manufacturing, expected to support regulatory approval and commercial launches in both Europe and US for MPC-06-ID in chronic low back pain due to degenerative disc disease

Key Terms of the Strategic Partnership with Grünenthal



Grünenthal has obtained

- An exclusive license for Europe and Latin America to develop and commercialize MPC-06-ID in the treatment of chronic low back pain due to degenerative disc disease

In consideration, Mesoblast will receive

- Up to US\$150 million in upfront and milestone payments prior to product launch, as well as further commercialization milestone payments
- Payments include commitments up to US\$45 million within the first year comprising US\$15 million on signing, US\$20 million on receiving regulatory approval to begin a confirmatory Phase 3 trial in Europe, and US\$10 million on certain clinical and manufacturing outcomes
- Cumulative milestone payments could exceed US\$1 billion depending on the final outcome of Phase 3 studies and patient adoption
- Mesoblast will also receive tiered double digit royalties on product sales
- Mesoblast retains the rights for the rest of world, including the US and Japan markets

Transaction Benefits to Mesoblast

✓ Strong commercial partner

- Delivers commercialization, distribution, sales & marketing
- Field force comprises around 1,600 people across Europe, Latin America & US – overall focus is on pain – visited nearly 300,000 stakeholders in 2018 (physicians, pharmacists & health administrators)
- Provides knowledge and knowhow in manufacturing, regulatory affairs (Europe in particular)

✓ Advances approval pathway

- Provides funding for Phase 3 trial in Europe reducing Mesoblast cash outflow
- Mesoblast and Grünenthal will collaborate on the study design for a confirmatory Phase 3 trial in Europe
- Confirmatory European and US (currently ongoing) Phase 3 trials are expected to support regulatory approval in both Europe and US

✓ Transaction focuses on Europe

- Mesoblast maintains rights to all other geographic markets, including US, Japan and China for additional partnering opportunities to maximize shareholder return

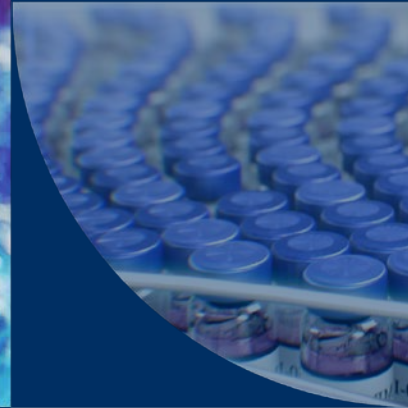
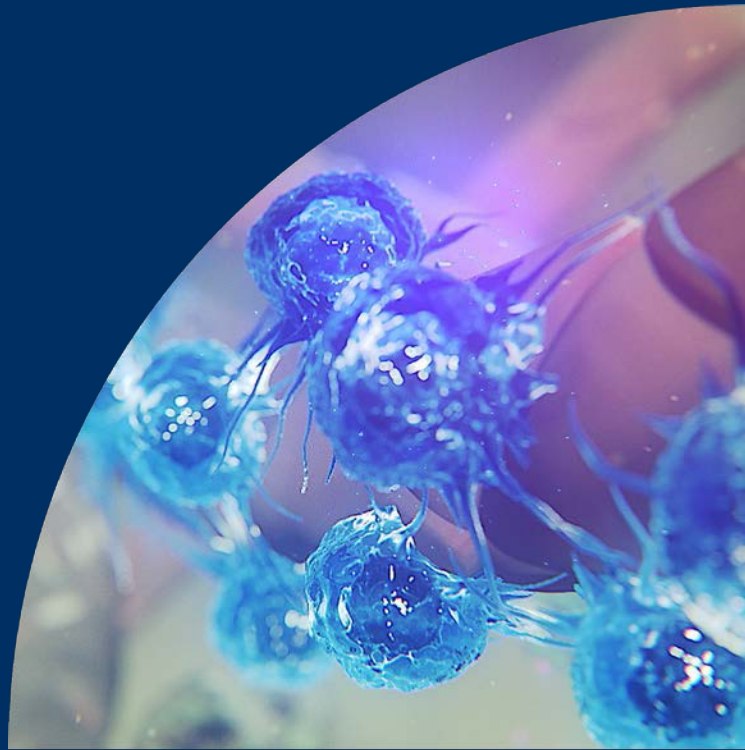
✓ Third party endorsement provides validation of technology platform

MPC-06-ID for Chronic Low Back Pain



Key Milestones

- Last patient last visit at 24-months of follow up in the Phase 3 trial of MPC-06-ID for chronic low back pain H1 CY20, with the primary endpoint being a composite outcome of pain and function at 12 and 24 months
- Obtain clearance in CY20 from European regulatory authorities to begin European Phase 3 trial
- Results from the Phase 3 trials will be considered pivotal to support regulatory approval in the US, as well as Europe through the Grünenthal partnership



 **mesoblast**



Questions