Cellular Medicines for Intractable Serious and Life-Threatening Diseases

Dr. Silviu Itescu, Chief Executive

January 2017

ASX:MSB/Nasdaq: MESO
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Our Mission, Vision and Focus:

Mesoblast is committed to bring to market its disruptive cellular medicines to treat serious and life-threatening illnesses where there are currently no alternative treatments.
**Compelling Investment Proposition:**
*Building a Leading Franchise of Cellular Medicines*

<table>
<thead>
<tr>
<th>Leader in Disruptive Cellular Technology Platform</th>
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<tbody>
<tr>
<td>- Extensive patent portfolio</td>
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<tr>
<td>- Highly potent immuno-selected mesenchymal lineage precursors and progeny</td>
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<tr>
<td>- Deep expertise in cellular pathways and mechanisms</td>
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</tbody>
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<tr>
<th>Proven Capability for Commercial Translation</th>
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<tbody>
<tr>
<td>- Scalable industrialized manufacturing</td>
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<td>- “Off the shelf” product capabilities to target large markets</td>
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<td>- Proven understanding of regulatory and reimbursement landscape</td>
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<td>- TEMCELL® HS. Inj. (aGVHD), approved in Japan¹</td>
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<tr>
<th>Advanced Pipeline of Cellular Medicines</th>
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<tbody>
<tr>
<td>- Three Tier 1 product candidates in Phase 3, one in Phase 2</td>
</tr>
<tr>
<td>- Focused on serious and life-threatening diseases with commensurate pricing</td>
</tr>
<tr>
<td>- Evidenced-based clinical data in place supporting efficacy across multiple indications</td>
</tr>
<tr>
<td>- Multiple upcoming clinical milestones &amp; corporate development</td>
</tr>
</tbody>
</table>

¹ Mesenchymal lineage adult stem cells (MLCs) including mesenchymal precursor cells (MPCs) and culture-expanded mesenchymal stem cells (MSCs).

1. Commercialization rights to Japan were out-licensed to JCR Pharmaceuticals.
The 21st Century Cures Act ("Cures Act"): Legislation for An Expedited Approval Path for Cellular Medicines Designated as Regenerative Advanced Therapies

- Cellular medicines may be designated as regenerative advanced therapies, if they are intended to treat, modify, reverse, cure a serious or life-threatening disease of condition, and there is preliminary clinical evidence indicating the potential to address the unmet medical need.

- Key benefits of the legislation for cell-based medicines, designated as regenerative advanced therapies, include:
  - Eligibility for priority review and accelerated approval
  - Potential to utilize surrogate endpoints for accelerated approval
  - Potential to utilize a patient registry data and other sources of "real world evidence" for post approval studies, subject to approval by the FDA.
Implications of the Cures Act:
Mesoblast Products for Serious and Life-Threatening Diseases Well Positioned

The 21st Century Cures Act will:

- Shorten clinical development time
- Shorten timeframes to FDA approval
- Reduce costs of development
- Increase the prospect of near-term revenue
- Position Mesoblast’s advanced product candidates for attractive pricing
Recent Corporate Development: Negotiations for a Development and Commercialization Partnership Underway

- December 22, 2016 - Entered into an equity purchase agreement with Mallinckrodt Pharmaceuticals for ~US$ 21.7 million

- Exclusively negotiate a commercial and development partnership for:
  - MPC-06-ID for moderate/severe chronic low back pain due to disc degeneration
  - MSC-100-IV for acute GVHD

- Exclusive period of up to 9 months for the two product candidates in all territories outside of Japan and China

- **Mallinckrodt Pharmaceuticals**
  - Gains a significant opportunity to opt-in to a pipeline of transformative regenerative therapy assets in late-stage development
  - Track record of success in commercializing medicines for immune-mediated diseases and pain management

- **Mesoblast Limited**
  - Leadership position in cellular-based medicines
  - Best-in-class allogeneic, “off-the-shelf” mesenchymal lineage adult stem cell platform

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1. Mallinckrodt has bought approximately 20.04 million (4.99%) of Mesoblast's ordinary shares.
At September 30, 2016, the Company had cash reserves of $US60.4 million.

In order to absorb the incremental costs of the MPC-150-IM program in advanced heart failure in FY17, the Company has executed its planned operational streamlining and re-prioritization of projects.

Cash outflows for Q1 FY17 were reduced by 28% compared with the comparable FY16 quarter.

In January 2017, we received $A29.6 million/US$21.7 million pursuant to an equity purchase agreement with Mallinckrodt Pharmaceuticals1.

As previously announced, a fully discretionary equity facility has been established for up to $A120 million/$US90 million over 36 months.

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1. Mallinckrodt has bought approximately 20.04 million (4.99%) of Mesoblast’s ordinary shares.
Proprietary Mesenchymal Lineage Technology Platform
The Mesoblast Difference:
Intellectual Property is Core to Our Strategy:
An Extensive Portfolio Covering Composition of Matter, Manufacturing, and Therapeutic Applications of Highly Potent Immuno-selected Mesenchymal Lineage Precursors and Progeny

796 Patents - 72 Patent Families Protection across major markets including US, Europe, Japan and China

Note: Excludes possible patent term extension; as of January 2017.
The Mesoblast Difference:
Transforming the Science of Cellular Medicine into Commercial Reality

- Mesenchymal lineage immuno-selected precursors and progeny cells (MLCs)
- STRO-1/STRO-3 immuno-selection provides a homogeneous and potent population of MLCs with receptors that respond to inflammatory and damaged tissue signals
- In response to activating signals present in damaged tissues, MLCs secrete a diverse variety of biomolecules responsible for immunomodulation and tissue repair\(^1\)
- Specificity of triggering signals potentially reduces likelihood of off-target side effects
- Optimal response likely to occur when signals are greatest in most advanced disease states
- Clinical data across broad range of indications show amplified efficacy in hardest to treat patient populations

The Mesoblast Difference: Scalable Manufacturing For High Margin Medicines

- Manufacture completed for clinical supply of all current Phase 3 trials
- Regulatory activities ongoing to meet requirements for commercial manufacturing across product pipeline
- Specific formulations defined for product delineation
- In-house proprietary serum media formulations developed to deliver step-change yield improvements and eliminate source capacity constraints
- Continued development using large commercial-grade bioreactors to move towards automation, reduction in labor and COGS improvements
Diverse Pipeline of Cellular Medicines
### Portfolio of Advanced Product Candidates: Ideally Positioned for the 21st Century Cures Act Environment

<table>
<thead>
<tr>
<th>Platform</th>
<th>Product Candidate</th>
<th>Therapeutic Area</th>
<th>Pre-Clinical/Pre-IND</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Approval</th>
<th>Partnering</th>
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<tbody>
<tr>
<td>MPC</td>
<td>MPC-150-IM</td>
<td>Advanced (Class 3) HF</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>End Stage (Class 4) HF</td>
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<tr>
<td>MPC</td>
<td>MPC-06-ID</td>
<td>Chronic Low Back Pain</td>
<td></td>
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<tr>
<td>MPC</td>
<td>MPC-300-IV</td>
<td>RA DN/Type 2 Diabetes</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>MSC</td>
<td>TEMCELL® HS Inj</td>
<td>Acute GVHD</td>
<td></td>
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<tr>
<td></td>
<td>MSC-100-IV</td>
<td>Acute GVHD</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Japan</td>
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</table>

**Tier 1**

Includes MSC-100-IV (Crohn’s disease – biologic refractory), MPC75-IA (Acute Cardiac Ischemia), MPC-25-Osteo (Spinal Fusion) and MSC-75-IA (Knee Osteoarthritis)

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*This chart is figurative and does not purport to show individual trial progress within a clinical program. For product registration purposes, Phase 3 programs may require more than one trial. Tier 1 programs represent our lead programs where we focus the majority of our time and resources. Tier 2 programs are also in development and may advance to Tier 1 depending on the merit of newly generated data, market opportunity or partnering options.*

1. On December 22, 2016, Mesoblast Ltd. entered into an equity purchase agreement with Mallinckrodt Pharmaceuticals for ~US$ 21.7m to exclusively negotiate a development and commercialization partnership for rights to GVHD and Chronic Low Back Pain outside of the Chinese and Japanese markets.
MPC-150-IM
Chronic Heart Failure (CHF) Program

Multi-billion dollar blockbuster potential
MPC-150-IM:
 Targets the Most Serious and Life-Threatening Complications of Heart Failure

**Significant Burden of Illness and Unmet Need**
- Globally, 17-45% of heart failure patients die within 1 year of hospital admission
- Majority of these patients die within 5 years of admission
- MPC-150-IM to target advanced HFrEF NYHA Class II-III with the objective of reducing major cardiovascular events (e.g. mortality and hospitalizations)

**Minimal Treatment Options**
- Despite recent advancements in pharmacotherapy, limited treatment options are available for patients with advanced NYHA Class II-IV Heart Failure with Reduced Ejection Fraction (HFrEF)

**Attractive Market Opportunity**
- ~1.9m NYHA Class II-IV patients with LVEF<40% in the US alone
- Over $60.2bn/yr in U.S. direct costs when this illness is identified as a primary diagnosis
  - ~$115bn as part of a disease milieu; hospitalizations result in ~69% of expenditures

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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
Chronic Heart Failure (CHF) Program:
Phase 2 Randomized Placebo Controlled Trial in 60 Patients HF Class II/III and LVEF<40%

- Objectives:
  - Identify a dose response and an optimal therapeutic dose
  - Identify optimal target population for therapeutic effect

- Placebo vs. 25, 75, 150M MPCs injected by endomyocardial catheter

- At 6 months: Dose-dependent effect seen on left ventricular remodeling, with 150M cell dose (MPC-150-IM) showing greatest effect vs. controls

Chronic Heart Failure (CHF) Program:
Phase 2 Therapeutic Benefit on LV Remodeling is Amplified in Subjects with LVESV >100ml

- Placebo corrected benefit of 150M cell dose on cardiac volumes and ejection fraction at 6 months was greatest in patients with more advanced heart failure as defined by baseline LVESV>100ml at baseline.

<table>
<thead>
<tr>
<th>Change (Entire cohort) Month 6 minus baseline</th>
<th>Change (LVESV&gt;100mL) Month 6 minus baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBO (n=15)</td>
<td>PBO (n=7)</td>
</tr>
<tr>
<td>150M MPC (n=15)</td>
<td>150M MPC (n=11)</td>
</tr>
<tr>
<td>Δ, PBO corrected</td>
<td>Δ, PBO corrected</td>
</tr>
<tr>
<td>P-values</td>
<td>P-values</td>
</tr>
<tr>
<td>LVESV</td>
<td>LVESV</td>
</tr>
<tr>
<td>+20</td>
<td>+46</td>
</tr>
<tr>
<td>-7</td>
<td>-8</td>
</tr>
<tr>
<td>-27</td>
<td>-54</td>
</tr>
<tr>
<td>&lt;0.02</td>
<td>&lt;0.02</td>
</tr>
<tr>
<td>LVEDV</td>
<td>LVEDV</td>
</tr>
<tr>
<td>+20</td>
<td>+41</td>
</tr>
<tr>
<td>-10</td>
<td>-10</td>
</tr>
<tr>
<td>-30</td>
<td>-51</td>
</tr>
<tr>
<td>&lt;0.03</td>
<td>&lt;0.03</td>
</tr>
<tr>
<td>LVEF</td>
<td>LVEF</td>
</tr>
<tr>
<td>-2.3</td>
<td>-6.4</td>
</tr>
<tr>
<td>+0.6</td>
<td>+1.7</td>
</tr>
<tr>
<td>+2.9</td>
<td>+8.1</td>
</tr>
<tr>
<td>&lt;0.05</td>
<td>&lt;0.05</td>
</tr>
</tbody>
</table>

Source: Perin et al., Journal of Cardiac Failure 2015; Vol 21(8): S107; 19th Annual Scientific Meeting of the Heart Failure Society of America, Emerson et al.
Chronic Heart Failure (CHF) Program:
Phase 2 Clinical Results Show A Single High-dose Injection May be Sufficient For Durable (36 Months) Protection Against HF-MACE\(^1\) in Patients With Advanced Heart Failure

\[\% \text{HF-MACE Kaplan-Meier Curve over 36 months following treatment in all patients}\]

\[\text{HF-MACE Kaplan-Meier Curve over 36 months following treatment in patients with LVESV}>100\text{ml}\]

\(^1\) HF-MACE is defined as a composite of cardiac related death or non-fatal heart failure hospitalisations. \(^2\) Circ Res. 2015; 117:576-584. Perin E et al. A Phase II Dose-Escalation Study of Allogeneic Mesenchymal Precursor Cells in Patients With Ischemic or Non-Ischemic Heart Failure. 3. Journal of Cardiac Failure 2015; Vol 21(8): S107; 19th Annual Scientific Meeting of the Heart Failure Society of America, Emerson et al.

- Over 36 months, patients receiving 150M MPC had significantly greater probability of remaining free of a first HF-MACE vs. controls (0% vs. 33%, \(p = 0.026\) by log-rank)
- All HF-MACE events occurred in controls with baseline Left Ventricular End Systolic Volume (LVESV)>100ml, where the treatment effect size was even greater (0% vs. 71%, \(p = 0.0007\) by log rank)
- Controls with baseline LVESV>100ml had 11 total/recurrent HF-MACE events over 36 months vs. 0 in matched patients receiving 150M MPCs (\(p=0.0007\))
MPC-150-IM: Phase 3 Trial Targets Advanced Heart Failure

- Patients with large baseline LVESV and advanced heart failure are at highest risk of HF-MACE
  - Have increased likelihood of having recurrent HF hospitalizations
  - Existing therapies are inadequate and economic burden is greatest

- To confirm that MPC-150-IM reduces HF-MACE in patients with advanced heart failure, the ongoing Phase 3 trial is designed to enrich for patients with advanced heart failure and high risk of HF-MACE
  - Enrichment for these patients based on heart failure hospitalization in the past 9 months and/or significantly elevated baseline NT-proBNP

- The trial’s primary endpoint is a comparison of recurrent HF-MACE between cell-treated patients and controls
- Terminal events are also being analyzed as they relate to non-fatal recurrent HF-MACE
MPC-150-IM:
Phase 3 Trial Operational Update

- The trial’s primary endpoint is a comparison of recurrent heart failure-related major adverse cardiovascular events (HF-MACE) in advanced CHF patients receiving either MPC-150-IM by catheter injection into the left ventricular heart muscle, or control.

- Phase 3 trial for 600 patients is recruiting well across North American sites; currently over 300 patients enrolled.

- After reviewing patient data in April and October 2016, the trial’s DSMB has maintained its recommendation that the study should continue as planned.

- The Company intends to perform in 1Q CY17 an interim analysis to assess the trial’s primary endpoint.

- Interim analysis will guide the Company’s discussions with the FDA in line with the 21st Century Cures Act for a potential pathway to accelerated approval.
Chronic Low Back Pain (CLBP) Due to Disc Degeneration

Multi-billion dollar blockbuster potential
MPC-06-ID: Alternative to Invasive Surgery and Opioid Use for Chronic Low Back Pain Patients

**Significant Burden of Illness and Unmet Need**
- Back pain causes more disability than any other condition\(^1\)
- Inflicts substantial direct and indirect costs on the healthcare system\(^1\), including excessive use of opioids in this patient population

**Minimal Treatment Options**
- Patients failing opioids and epidural steroids are limited to highly invasive surgical procedures\(^2\)

**Attractive Market Opportunity**
- In 2016, over ~7m U.S. patients are estimated to suffer from CLBP due to degenerative disc disease (DDD)\(^3,4,5\)
- MPC-06-ID development program targets over ~3.2m patients

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4. LEK & NCI opinion leader interviews, and secondary analysis.
MPC-06-ID:

Phase 2 Trial Results Support Phase 3 Program

General Overview

- 100 patients with >6 months of CLBP due to DDD and unresponsive to conservative therapies (incl. opioids and epidural steroids) were evaluated in a randomized, placebo controlled Phase 2 trial
- Safety-cells and treatment procedure were well tolerated
- Event rates cell treated and control subjects were similar

Description of Efficacy Endpoints:

- Visual Analog Scale (VAS) scored from 0-100, evaluated at 1,3,6,12 and 24 months
  - Minimally clinical important difference (MCID) in VAS is defined as >30% improvement
  - Guidance from key opinion leaders and payers requires > 50% in pain reduction at a distinct time point
- Oswestry Disability Index (ODI) is a standardized measure of function and was evaluated at 1,3,6,12 and 24 months
  - Minimally clinical important difference (MCID) in ODI is defined as >30% or 10 point improvement
  - 15 point improvement has been used as the MCID for surgical devices to support FDA and EU marketing authorization

3. EMA-SEED 2015.
MPC-06-ID:
Phase 2 Data Support Composite Pain and Function Endpoint in Ongoing Phase 3 Study
- Consistent with Potential as an Alternative to Surgery and Opioid Use for CLBP Patients

Treatment Success Composite Endpoint: 50% VAS back pain reduction AND 15 point ODI improvement AND no intervention at the treated level.

The primary endpoint for the ongoing Phase 3 trial is Overall Treatment Success (using a composite of 50% improvement in lower back pain and 15 point improvement in function at both 12 and 24 months).

**% Patients with Treatment Success at 6 & 12 Months**
- **6M MPCs**: 44.4%
- **18M MPCs**: 37.9%

**% Patients with Treatment Success at 12 & 24 Months**
- **6M MPCs**: 38.5%
- **18M MPCs**: 34.6%

- **a) p=0.044 6M MPC vs. saline**
- **b) p=0.058 6M MPC vs. HA**
- **c) p=0.090 18M MPC vs. saline**
- **d) p=0.090 6M MPC vs. saline**

1. Source Mesoblast Ltd.
MPC-06-ID:
Phase 3 Trial Operational Update

- The 24-month results from the Company’s 100-patient Phase 2 trial of MPC-06-ID for treatment of CLBP were presented at the 24th Annual Scientific Meeting of the Spine Intervention Society; received the 2016 Best Basic Science Abstract award

- A 360-patient Phase 3 trial is recruiting well across sites in US and Australia

- On track to complete recruitment in 2017

- FDA has provided written guidance:
  - Use of a composite primary endpoint is acceptable for approval
  - Primary endpoint aims to provide an alternative to surgery
  - Agreed thresholds for pain (50% decrease in VAS) and function (15 point improvement in ODI)
  - Two time points (12 and 24 months) for meeting pain and functional improvement criteria
  - No intervention at the treated level through 24 months
Acute Graft vs Host Disease (aGVHD)

Our nearest-term revenue product candidate: MSC-100-IV for steroid-refractory aGVHD
MSC-100-IV: Acute Graft vs Host Disease
Serious and Life-Threatening Complication of Bone Marrow Transplants

**Significant Burden of Illness and Unmet Need**
- aGVHD - a severe immunological reaction occurring in BMT patients
- Steroid-refractory aGVHD (SR-aGVHD) patients have mortality rates as high as 95%\(^1\)
- Is a major limitation in successful allogeneic hematopoietic stem cell transplants\(^1\)
- Refractory aGVHD is associated with significant extended stay hospital costs\(^2\)

**Minimal Treatment Options**
- No regulatory approved treatment for SR-aGVHD outside of Japan
- No broad consensus on off-label second-line agents

**Attractive Market Opportunity**
- ~30,000 allogeneic BMTs performed globally (~20K US/EU5) annually, ~20% pediatric\(^4,5\)
- Received approval in Japan (TEMCELL® HS Inj.) for aGVHD in 2015; reimbursed up to ~$USD195k per full treatment course\(^3\)

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2. Anthem-HealthCore/Mesoblast claims analysis (2016).
3. Based on a ¥JPY = $USD 0.009375 spot exchange rate on as of the market close on November 11, 2016. Amounts are rounded. Source: Bloomberg
5. CIBMTR, Decision resources GVHD Epi Nov 2012.
MSC-100-IV:

Prior Clinical Results\(^1\) Support Ongoing Phase 3 Trial in Children with Steroid Refractory Acute GVHD (SR-aGVHD)

MSC-100-IV as first line therapy in children with SR-aGVHD

<table>
<thead>
<tr>
<th>Response at Day 28</th>
<th>Randomized Placebo Controlled Trial</th>
<th>Expanded Access Program</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Placebo</td>
<td>MSC-100-IV</td>
</tr>
<tr>
<td>Responder</td>
<td>3/14 (21.4%)</td>
<td>9/14 (64.3%)</td>
</tr>
<tr>
<td>Non-responder</td>
<td>11/14 (78.6%)</td>
<td>5/14 (35.7%)</td>
</tr>
</tbody>
</table>

- Demonstrates that MSC-100-IV has an effect when used as first line therapy in children with SR-aGVHD compared with placebo control patients, MSC-100-IV produced superior overall response at day 28, a clinically meaningful endpoint (p=0.0014)*

- FDA agreement on ongoing 60 patient Phase 3 trial and it’s eligibility for accelerated approval pathway

- Enrollment criteria: MSC-100-IV offered as first line therapy in children with SR-aGVHD

\(^1\) Protocols 275 (NCT00759018) and 280 (NCT00366145).
Acute Graft vs Host Disease: Product Development Strategy

Pediatric GVHD0001/GVHD002: Phase 3 study ongoing, ~40 sites planned
- Multi-center, single-arm, open-label to evaluate efficacy and safety to day 100 (study 001) and from day 100 to day 180 (study 002)
- At least 60 pediatric patients (2 months to 17 years inclusive)
- aGVHD following allogeneic HSCT failing systemic corticosteroid therapy

Endpoints:
- Primary endpoint: Overall response at Day 28
- Key secondary endpoint: Survival at Day 100 in responders at Day 28
- Subjects evaluated at Days 28, 56 and 100 in study 001, and out to Day 180 in study 002

Adult GVHD
- Complete targeted Phase 3 study in high-risk subset of adult patients with aGVHD (liver and gut disease)
- Market development and access work in parallel
- Launch adult product in major markets planned for 2021

GVHD001:
Successful Interim Futility Analysis in 4Q CY16

- Predefined Bayesian futility rule that determined the predictive probability of success using the primary endpoint of Day 28 overall response
- Method determined the likelihood of obtaining a statistically significant treatment effect at study completion, conditional on the data observed at this interim time point
- DSMB notified Mesoblast that analysis was successful
- Interim analysis outcome is consistent with what has previously been demonstrated for the product used in this indication under both expanded access protocol and earlier placebo-controlled trial

- Enrollment in the study is ongoing across multiple sites in the United States and will continue
  - Completion is expected in mid-2017
  - Commercial launch activities are underway
Our inflammatory diseases portfolio (MPC-300-IV) is a highly attractive emerging opportunity

Multi-billion dollar blockbuster potential
**MPC-300-IV: Biological Refractory Rheumatoid Arthritis (RA)**

**Significant Burden of Illness and Unmet Need**
- RA is associated with multiple co-morbidities and psychosocial impairments
- Mesoblast development program targets the **biologic refractory** population
  - ~1/3 of RA patients treated with TNF-α inhibitors are inadequate responders and percentage fail multiple treatments; numbers increasing due to use of biosimilars
  - Many patients also experience waning efficacy over time

**Minimal Treatment Options**
- Providers and Payers desire new therapies with alternative mechanisms of action that:
  - Reduce signs and symptoms
  - Induce remission
  - Offer an improved safety profile in refractory setting

**Attractive Market Opportunity**
- ~5.3m prevalent cases in the US, Japan, and EU5; 2.4m in the US alone in 2014
- Anti-TNF refractory population in the U.S. is the fastest growing branded market segment, projected to increase by ~8% annually or greater and potentially higher with the expected market entry and greater availability of anti-TNF biosimilars

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## MPC-300-IV: Biological Refractory RA
### Phase 2 Efficacy Responses at Week 12

#### All Subjects

<table>
<thead>
<tr>
<th></th>
<th>Placebo</th>
<th>1M/kg</th>
<th>2M/kg</th>
<th>P=value 2M=kg vs. placebo</th>
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<tr>
<td>N</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>ACR70</td>
<td>0%</td>
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<td>19%</td>
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<tr>
<td>ACR20</td>
<td>50%</td>
<td>47%</td>
<td>50%</td>
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#### Subgroup with prior use of 1-2 Biologics

<table>
<thead>
<tr>
<th></th>
<th>Placebo</th>
<th>1M/kg</th>
<th>2M/kg</th>
<th>P=value 2M=kg vs. placebo</th>
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<tbody>
<tr>
<td>N</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>ACR70</td>
<td>0%</td>
<td>20%</td>
<td>36%</td>
<td>0.09</td>
</tr>
<tr>
<td>ACR50</td>
<td>11%</td>
<td>30%</td>
<td>55%</td>
<td>0.07</td>
</tr>
<tr>
<td>ACR20</td>
<td>33%</td>
<td>60%</td>
<td>55%</td>
<td>&gt;0.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>HAQ-DI&lt;-0.22</th>
<th>HAQ-DI LS mean change from baseline</th>
<th>DAS28-CRP LS mean change from baseline</th>
<th>DAS28-CRP ≤ 3.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placebo</td>
<td>38%</td>
<td>-0.2</td>
<td>-1.4</td>
<td>19%</td>
</tr>
<tr>
<td>1M/kg</td>
<td>53%</td>
<td>-0.3</td>
<td>-1.3</td>
<td>27%</td>
</tr>
<tr>
<td>2M/kg</td>
<td>93%</td>
<td>-0.6</td>
<td>-2.0</td>
<td>36%</td>
</tr>
<tr>
<td>P=value 2M=kg vs. placebo</td>
<td>0.003</td>
<td>0.02</td>
<td>&gt;0.1</td>
<td>&gt;0.1</td>
</tr>
<tr>
<td>Placebo</td>
<td>33%</td>
<td>-1.1</td>
<td>-1.8</td>
<td>22%</td>
</tr>
<tr>
<td>1M/kg</td>
<td>60%</td>
<td>-1.8</td>
<td>-2.4</td>
<td>30%</td>
</tr>
<tr>
<td>2M/kg</td>
<td>91%</td>
<td>-2.4</td>
<td>-2.4</td>
<td>40%</td>
</tr>
<tr>
<td>P=value 2M=kg vs. placebo</td>
<td>0.02</td>
<td>0.03</td>
<td>0.06</td>
<td>&gt;0.1</td>
</tr>
</tbody>
</table>

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MPC-300-IV: Biological Refractory RA
Phase 2 ACR Responses Compared to Published Comparators at Week 12

Inhibitors of IL-6, CD80/CD86, CD20, JAK

0% 5% 10% 15% 20% 25% 30% 35% 40%

| 14% | 22% |

Jak Inhibitors

MPC 2m/kg

27%

MPC 2m/kg (1-2 biologics)

36%

Inhibitors of IL-6, CD80/CD86, CD20, JAK

0% 5% 10% 15% 20% 25% 30% 35% 40% 45% 50% 55% 60%

| 26% | 42% |

Jak Inhibitors

MPC 2m/kg

40%

MPC 2m/kg (1-2 biologics)

55%

1Inhibitors of IL-6/CD80-CD86/CD-20/JAK; Biologic Refractory Studies: Orencia (BMS) – ATTAIN, Rituxan (Roche) – REFLEX, Actemra /8mg/kg (Roche)- RADIATE, Xeljanz /5mg bid (Phase III)

2 Jak Inhibitors Biologic Refractory Studies: baricitinib/4mg (Eli Lilly/Incyte) – RA – BEACON, ABT-494 /12mg (AbbVie) – Phase IIB
Upcoming Planned Milestones and Catalysts Over the Next 12 Months

- **MPC-150-IM**
  - Phase 3 interim analysis for Class II/III (1Q CY17)
  - Phase 2B complete trial enrollment for Class IV (Mid-17)
  - Phase 2B data read-out Class IV (4Q CY17)

- **MSC-100-IV**
  - Phase 3 complete trial enrollment (1H CY17)
  - Phase 3 data read-out (4Q CY17)

- **MPC-06-ID**
  - Phase 3 complete trial enrollment (2H CY17)

- **MPC-300-IV**
  - 9-Month data readout (1H CY17)

- Potential corporate partnerships
Cellular medicines offer unique solutions to intractable medical challenges
Thank You