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the regenerative medicine company

CEO Presentation

Bell Potter Life Sciences Conference
Melbourne, November 2012

Forward looking statements

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Mesoblast's proprietary Mesenchymal Precursor Cell (MPC) technology

1. Patented adult stem cell technology platform for Stro-1/Stro-3 cells
2. Highly purified populations of earliest precursors of mesenchymal lineage cells
3. Scientific advantages based on high degree of potency and effectiveness of this purified cell type across multiple disease targets
4. Commercial advantages derive from high degree of expansion potential and relative non-immunogenicity…allogeneic business model

Leveraging Mesoblast's proprietary MPC technology

- Multiple products, parallel timeframes
- Products specifically target major medical conditions where proprietary technology offers unique scientific and clinical advantages
- Strong cash position enables simultaneous development
- Commercial success enhanced via strategic partnerships and growth through profitable manufacturing operations
- Potential to deliver significant and sustainable revenues

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Diverse products in distinct areas

1. Products in partnership with Teva, primarily in cardiovascular and neurological diseases

2. Products for intravenous delivery in type 2 diabetes and its complications including kidney disease

3. Products delivered intravenously for immunologic/inflammatory conditions, such as lung and joint diseases

4. Products locally administered for orthopedic diseases of the spine, and vascular and inflammatory eye conditions

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Corporate partnerships manage execution risk – Teva alliance

- Partnership focus on neurologic, cardiovascular diseases
- Lead product for congestive heart failure – number 1 cause of hospitalization in industrialized world
- Provides Phase 3 clinical and regulatory expertise
- Provides funding for partnered programs
- Provides global distribution strength

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Corporate partnerships manage execution risk - Lonza

- Our product manufacturing strategy is to ensure:
  - commercial scale-up
  - reduced COGS
  - capacity for commercial product supply

- Lonza partnership provides global process development & manufacturing capability
- Exclusive access to state-of-the-art Lonza Singapore facility for allogeneic cell manufacture
- New manufacturing base will support clinical trial and early commercial supply
- Alleviates need for internal spend on manufacturing facility, and will provide significantly larger facility for commercial supply on first product approval

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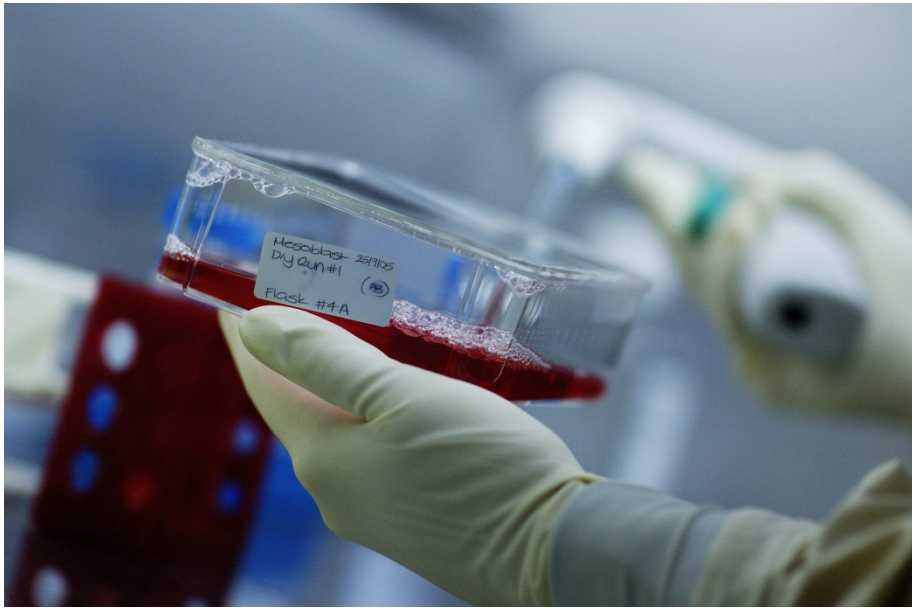
Product Pipeline



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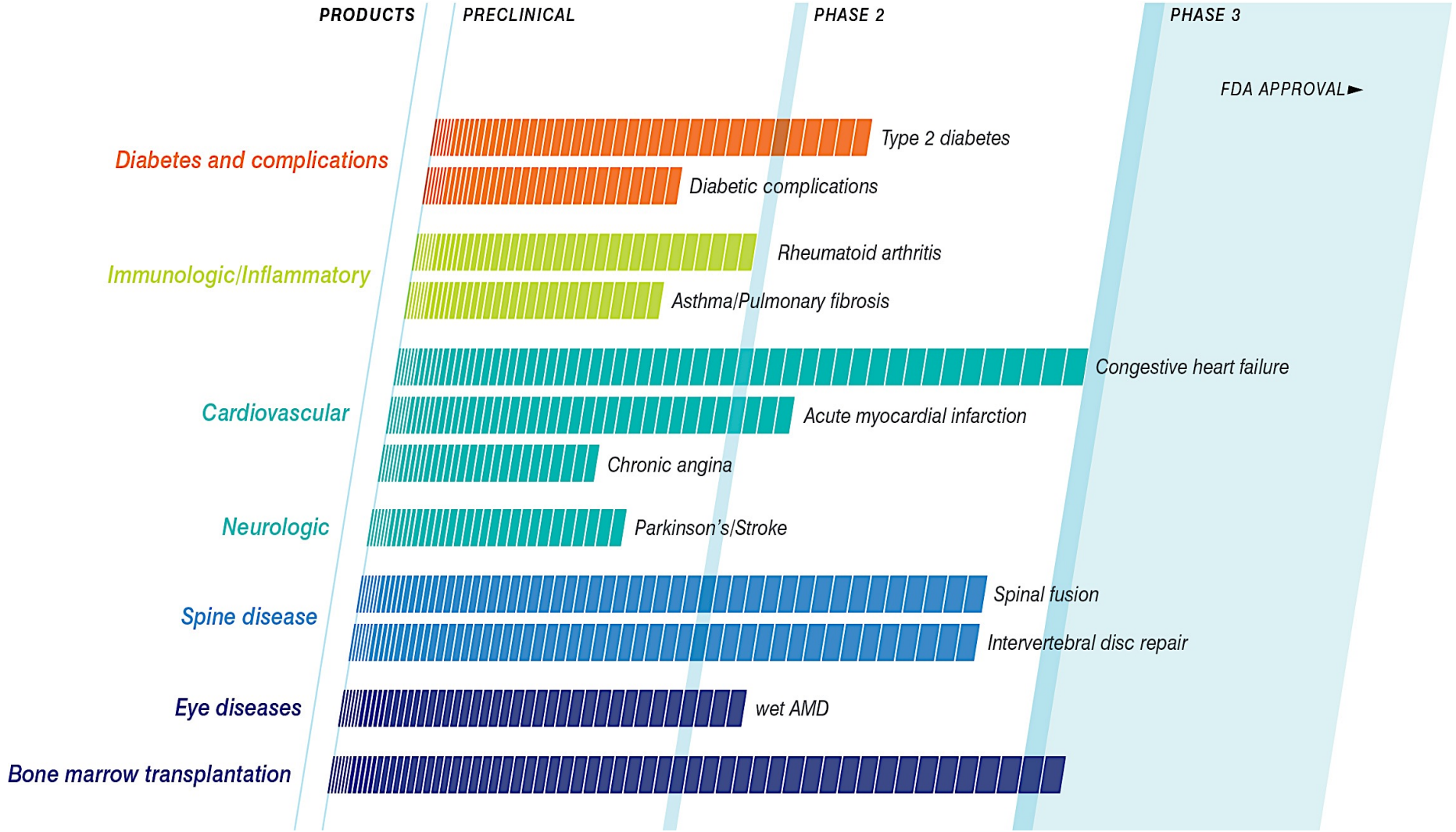
Platform Delivers Multi-Product Pipeline



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Products for intravenous administration

Intravenous products to treat prevalent systemic disorders affecting the metabolic, inflammatory and immune systems

- Type 2 early diabetes
- Kidney failure and cardiovascular complications
- liver fibrosis

Inflammatory/immune mediated diseases

- Inflammatory joint diseases - Rheumatoid Arthritis
- Lung diseases - Asthma, Pulmonary Fibrosis

Intravenous formulation of MPCs can be delivered once or multiple times for disorders that affect multiple organs

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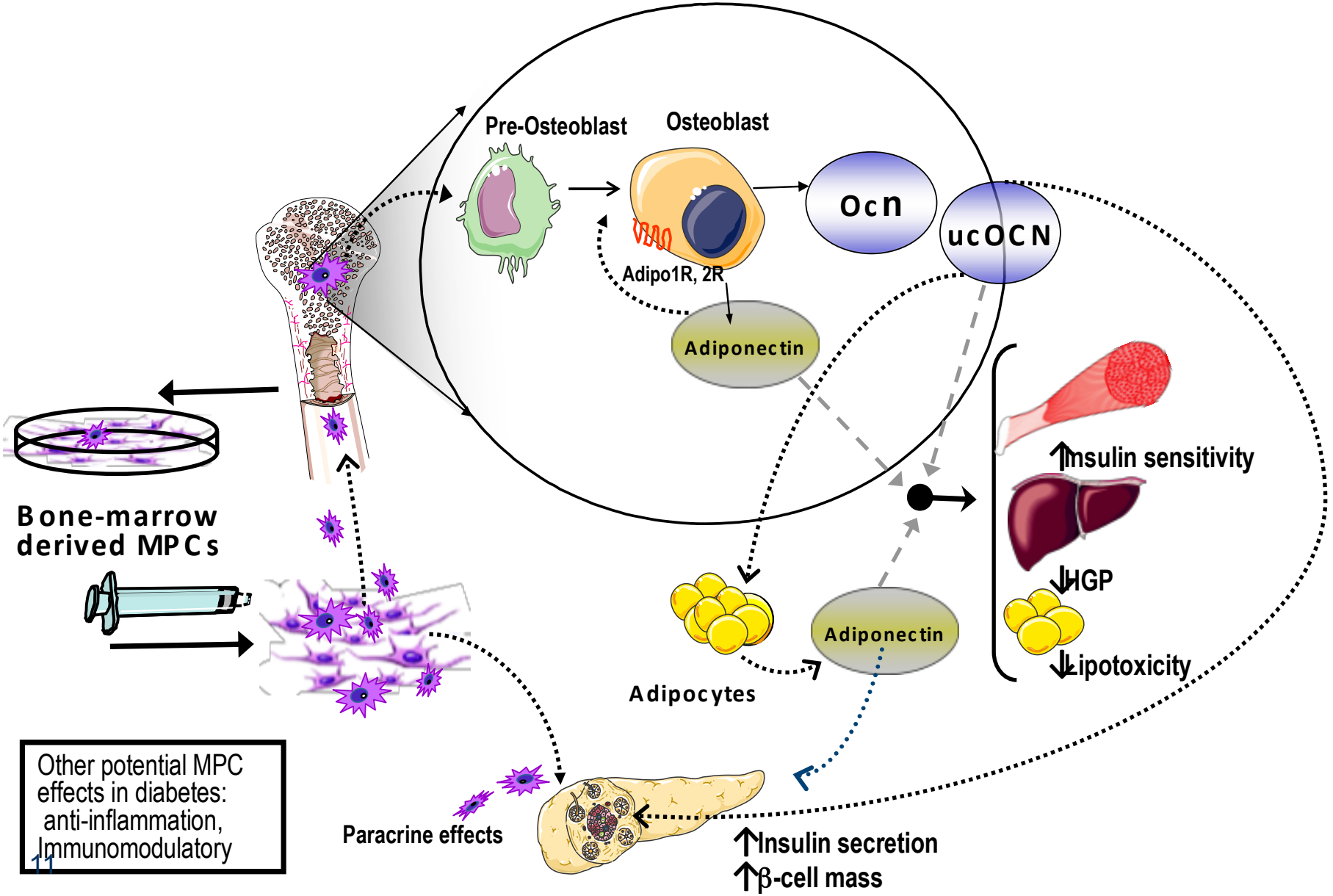
Integrated Metabolic Mechanisms of Action of MPCs



Other potential MPC effects in diabetes: anti-inflammation, Immunomodulatory

Intravenous delivery - Type 2 diabetes

- Randomized, placebo-controlled Phase 2 trial in 60 patients with type 2 diabetes actively recruiting under FDA guidance
- Patients evaluated over 12 weeks for blood glucose control and inflammatory markers such as C-reactive protein (C-RP)
- Objective to find optimal dose for both glucose control and reduction in inflammation parameters

Trial will set foundation for evaluating MPCs in treating patients with advanced diabetes and life-threatening complications such as renal failure and cardiovascular disease

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Intravenous delivery – renal complications of diabetes

- Plan to evaluate whether single dose of MPCs can stabilize or reverse end-stage kidney disease
- Nearly 10% annual rate of cardiovascular disease and death in diabetic patients with end-stage kidney disease
- Non-human primate study showed circulating C-RP levels significantly reduced after single MPC dose (C-RP is major predictor of cardiovascular risk in diabetes)

Plan to evaluate whether intravenous MPC therapy has potential to offer cardioprotective and renal benefits in these patients

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Intravenous delivery – Immune-mediated diseases

- Preclinical data indicate MPCs have immunomodulatory properties
- Single intravenous injection may provide sustained benefits for immune-mediated diseases
- Mechanism of action (MOA) is unique as shuts down multiple cytokine pathways simultaneously:
  - TNF-alpha, IL-6, IL-17 are mediators that drive autoimmune diseases such as rheumatoid arthritis, Crohn's disease, multiple sclerosis
  - existing treatments require chronic administrations; may cause unacceptable infectious adverse events

Initial targets are inflammatory joint and lung diseases

Randomized, placebo-controlled Phase 2 trials of MPCs for patients with RA planned as either first line treatment or rescue after failure with other biologics

Products for local administration - cardiovascular

With Teva, developing therapies for cardiovascular diseases including congestive heart failure (CHF) and acute myocardial infarction (AMI)

- Phase 2 trial for CHF showed patients treated with single intra-cardiac injection of highest dose of MPCs have had no hospitalization for decompensated heart failure or cardiac-related deaths over nearly 3 years of follow-up
- Teva and Mesoblast met with FDA and European Medicines Association to discuss aligned Phase 3 trial with endpoint of reduction in hospitalization and death
- Teva and Mesoblast in discussion on a Phase 3 trial design involving an early interim analysis to evaluate evidence of efficacy
- Phase 2 AMI trial ongoing in Europe and Australia
- Additional potential areas include chronic refractory angina

Products for local administration – spine disease

Diseases of the spine represent largest growing market segment in orthopedics

- Spinal fusion product for patients with advanced disc degeneration who need surgery
  - Phase 2 lumbar and cervical spinal fusion trials completed enrollment
  - full 12-month follow-up results to be announced later this year
- Larger market for restoration of early disc damage
  - Phase 2 study just completed enrollment of 100 patients with intervertebral disc disease
  - results expected mid 2013

Spinal franchise will likely be optimized with one strategic partner, leveraging distribution and market strengths

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Other products – eye diseases and bone marrow transplantation

Developing stem cell therapeutic product for treating various vascular and inflammatory diseases of the eye including wet and dry age-related macular degeneration (AMD)

- Wet and dry AMD are the major causes of blindness in the elderly
- Phase 2 trial wet AMD study currently enrolling patients at sites in Singapore and Australia

Developing stem cell therapeutic product to improve bone marrow transplant outcomes and provide a therapy for patients who cannot find a donor and may otherwise die

- Ongoing Phase 3 clinical trial using MPCs to expand hematopoietic precursors from cord blood for transplantation in cancer patients whose bone marrow has been destroyed by high dose chemotherapy
- Aim is to increase 3-4 fold the number of unrelated donor transplants

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The year ahead, what we expect:

- Commencement of Phase 3 trial for congestive heart failure involving an early interim analysis to evaluate evidence of efficacy
- Continued recruitment in Phase 2 trial for AMI patients
- Clinical results in Phase 2 trials with early type 2 diabetes, spinal fusion and intervertebral disc repair
- Expand focus on intravenous product franchise with commencement of Phase 2 trials for –
  - diabetic kidney disease
  - rheumatoid arthritis
  - lung diseases
- Additional partnering opportunities – optimal timing

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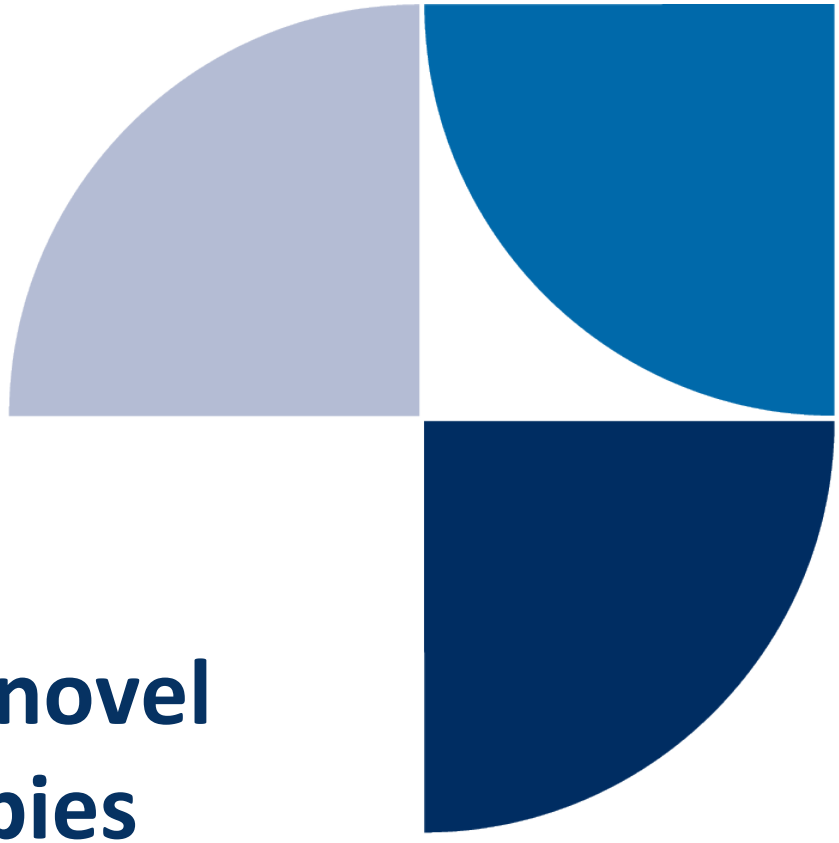

Leading the world in novel adult stem cell therapies