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ASX:NSB

StemSmart™ MSC

A GMP-manufactured, patented mesenchymal stromal cell platform for immune-mediated inflammatory disease

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ISCT | ANZ 2026



Mesenchymal Stem Cells (MSC)

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Multipotent non-engrafting cells with expansion capacity and multi-lineage differentiation.¹

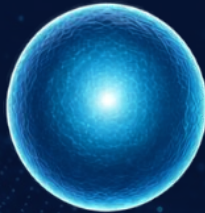
Adherent, fibroblast-like cells found in bone marrow, adipose tissue, placenta, umbilical cord and other tissue sources.

Low immunogenicity and do not require donor-recipient matching.

- Low HLA Class I expression
- No HLA Class II expression
- No co-stimulatory molecule expression
- Unable to induce T-cell mediated immune response
- Escape recognition by alloreactive T cells and NK cells

Multipotent Biological Capabilities

Source Material



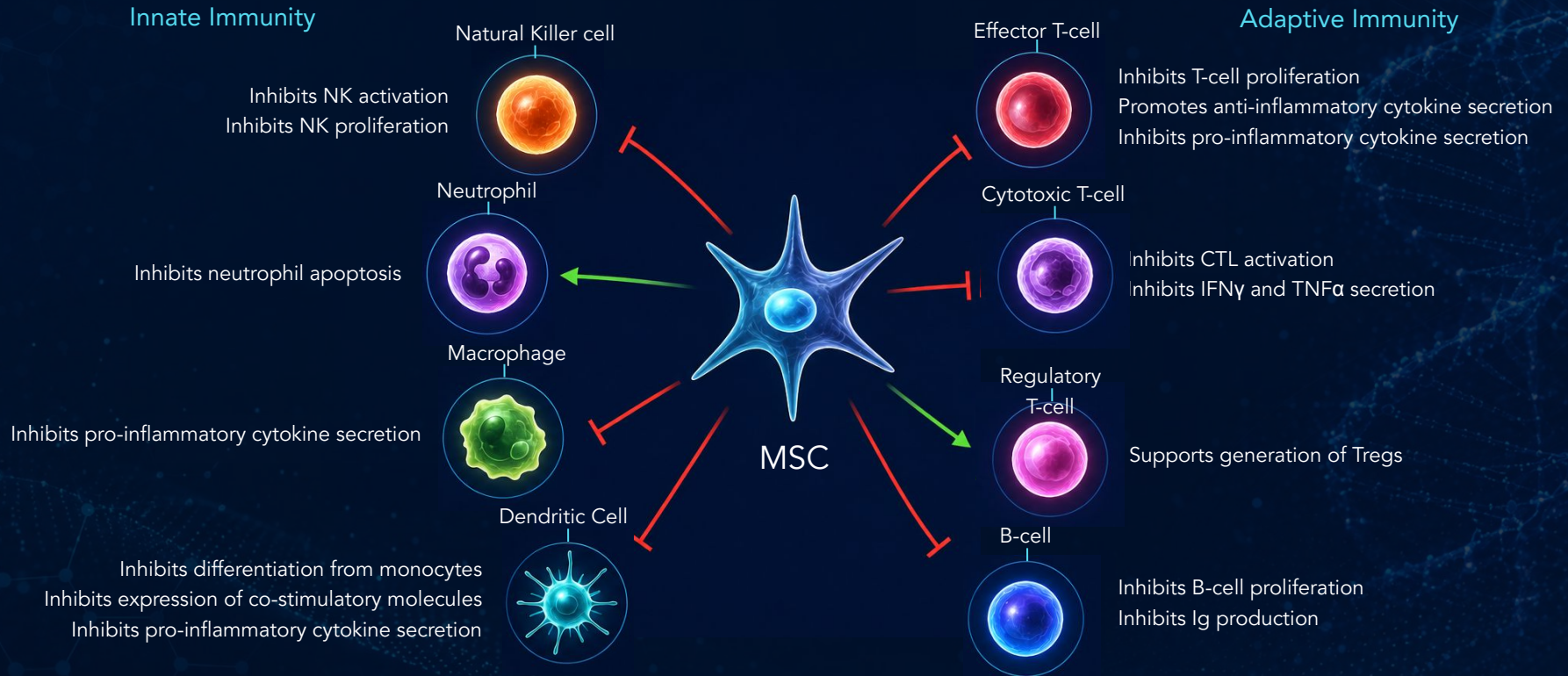
MSCs



Cellular Targets of MSC

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Regulating inflammation across innate and adaptive immunity



Immune/Inflammatory Diseases

Immunosuppression and immunoregulation:

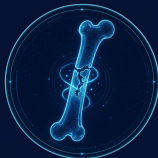
Graft versus Host Disease (GvHD) following allogeneic hematopoietic stem cell transplantation with promising outcomes.¹

Immunomodulation: preliminary clinical trials² :

- Crohn's Disease
- Multiple Sclerosis (MS)
- Systemic Lupus Erythematosus
- Chronic Obstructive Pulmonary Disease
- Insulin Dependent Diabetes Mellitus
- Renal Transplant

Tissue repair:

- Cardiac Repair
- Bone Fracture & Bone Disorders
- (e.g., Osteogenesis Imperfecta)
- Meniscectomy
- Liver Repair (Cirrhosis)
- Enhancement of Engraftment/Transplant



1) Kurtzberg J, et al A Phase 3, Single-Arm, Prospective Study of Remestemcel-L, Ex Vivo Culture-Expanded Adult Human Mesenchymal Stromal Cells for the Treatment of Pediatric Patients Who Failed to Respond to Steroid Treatment for Acute Graft-versus-Host Disease. Biol Blood Marrow Transplant. 2020 May;26(5):845-854.

2) Newman RE, Yoo D, LeRoux MA, Danilkovitch-Miagkova A. Treatment of inflammatory diseases with mesenchymal stem cells. Inflamm Allergy Drug Targets. Vol. 8(2),110-123 2009

Introducing StemSmart™

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Purpose-built Mesenchymal Stem Cell (MSC) therapy for patients with limited options¹



Designed for
severe inflammation

Home to inflammation sites and modulate the immune response



Targets
treatment-resistant
patients

Developed for patients who have failed existing biologic therapies



Proven Safe
across multiple clinical
studies

Large number of patients treated - no serious adverse events reported



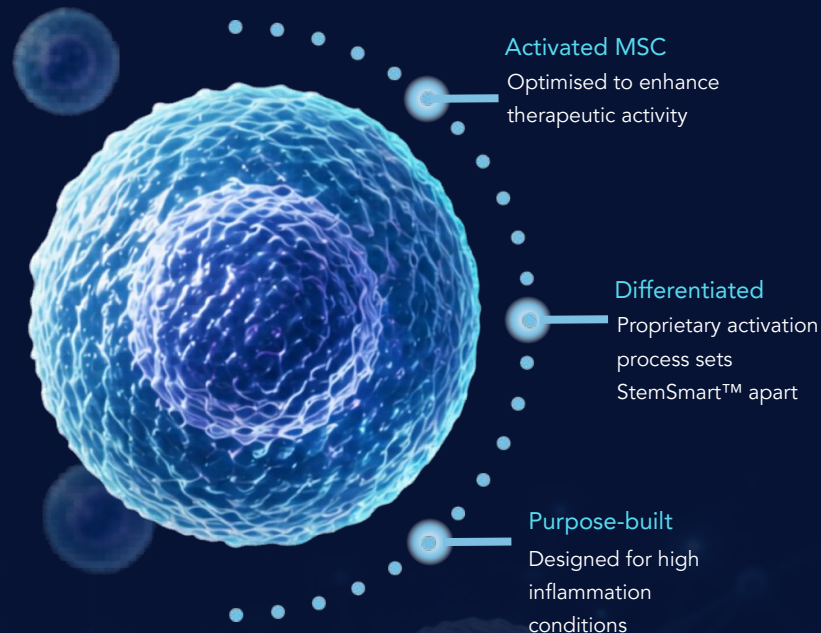
Manufactured to
regulatory standards

Produced under TGA accreditation to ensure safety, quality and consistency



**Patented platform
technology**

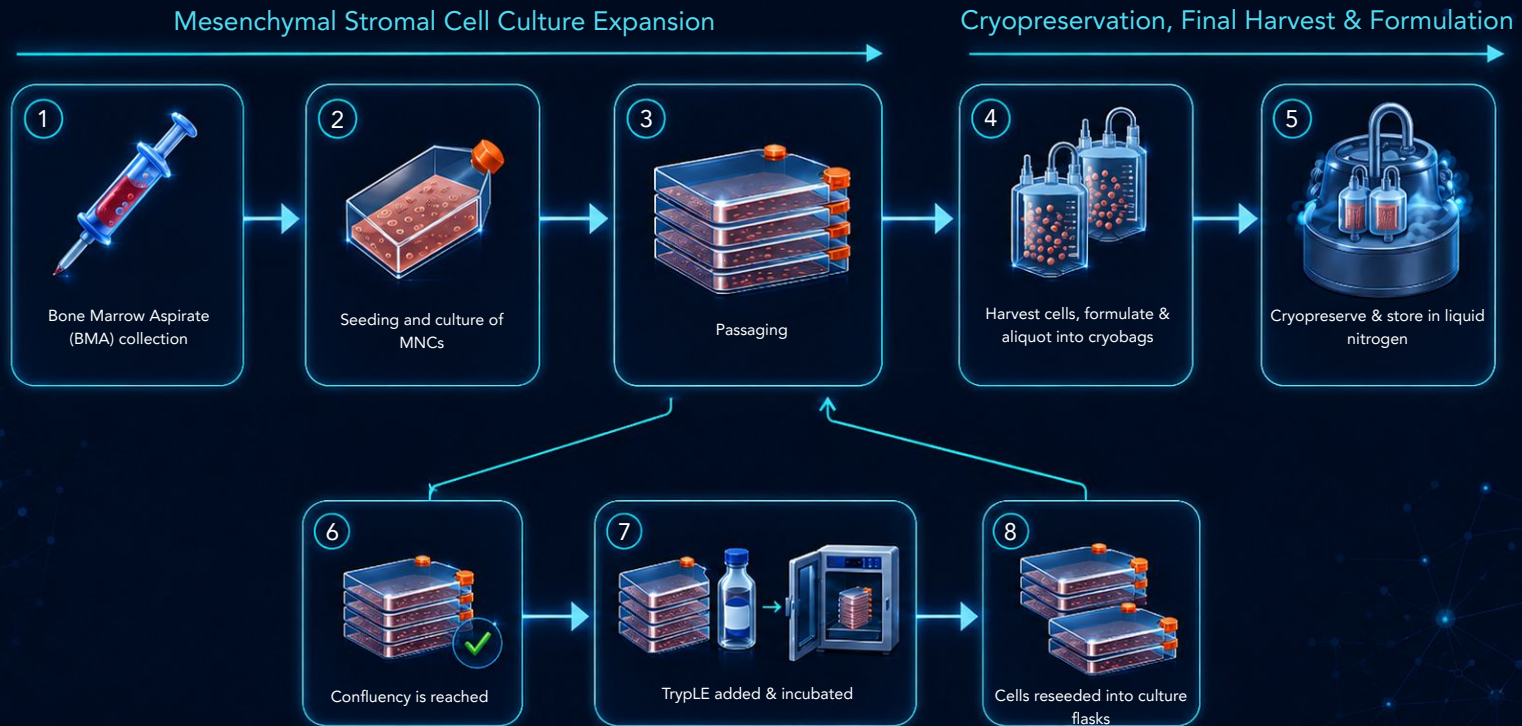
StemSmart™ platform technology was developed at Royal Perth Hospital, WA.



Securing the StemSmart™ Manufacturing Process

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From bone marrow aspirate collection to culture expansion, harvest and cryopreservation



Crohn's Disease

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A progressive disease with significant patient burden, economic cost and limited durable treatment options



70,000+

Australians affected



1,000+

new cases annually



15–40yrs

most commonly affected



\$3.1B+

annual economic cost



\$361M

productivity loss



Progressive complications over time

High risk of strictures, fistulae, perianal complications, surgery and colorectal cancer



Fistulising Crohn's disease

Perianal fistulas develop in about 25% of patients, greatly impair quality of life and remain difficult to treat with standard therapies.

Changing the natural history of Crohn's disease and preventing disabling complications is the key treatment goal.

Significant Clinical Response

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Demonstrated in Previous Clinical Trial with Refractory Crohn's Patients: Forbes *et al* Royal Perth Hospital.



78%

demonstrated
clinical response*¹

*defined as reduction in Crohn's disease
activity index (CDAI) by >100 points



44%

achieved
remission**¹

**defined as reduction in CDAI
score to below 150 points



Demonstrated in
prior Phase 2
clinical study¹



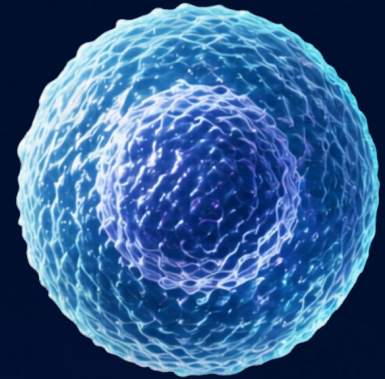
Patients treated
had previously
failed biologics¹



No safety events
related to treatment
with StemSmart™



Real patient data from multiple other clinical
programs support platform approach



StemSmart™

Special Access Program 1,2 – StemSmart™

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For Patients with Fistulising Crohn's Disease – a significant unmet medical need



4/5

patients achieved a clinical response^{3,4}
(≥50% fistula closure or discharge reduction)



Special Access Scheme

TGA program allows patients with limited treatment options access to experimental therapies¹

Fistulising Crohn's Disease

Debilitating quality of life due to abnormal tunneling between bowel and outside skin / other organs

Phase 2 insight

Real-world data is informing the planned Phase 2 clinical trial in CY2026^{3,4}

Early real-world validation in severe Crohn's patients with limited treatment options

1.ASX Announcement (7 October 2025) – "First Patients Approved for Special Access Program"

2.ASX Announcement (11 November 2025) – "NSB Progresses through Clinical Development Program with Fourth Patient Commencing Treatment Under Special Access Scheme"

3.ASX Announcement (13 January 2026) – "Successful Clinical Results Achieved under Special Access Program"

4.ASX Announcement (26 May 2026) – "Remarkable Results from Patients treated with StemSmart under the Special Access Program"

Preparations in progress for Phase 2 Clinical Trials

Fistulising Crohn's Disease



Phase 2 clinical trial in Australia only



Australian TGA Clinical Trial Notification pathway



Open label, single-arm study



Patient criteria & numbers in development

Data intended to support Marketing Authorisation
in Australia

Refractory Crohn's Disease



Phase 2 clinical trial in US & Australia



US FDA Investigational New Drug program



Randomised, double-blinded, 2-arm study



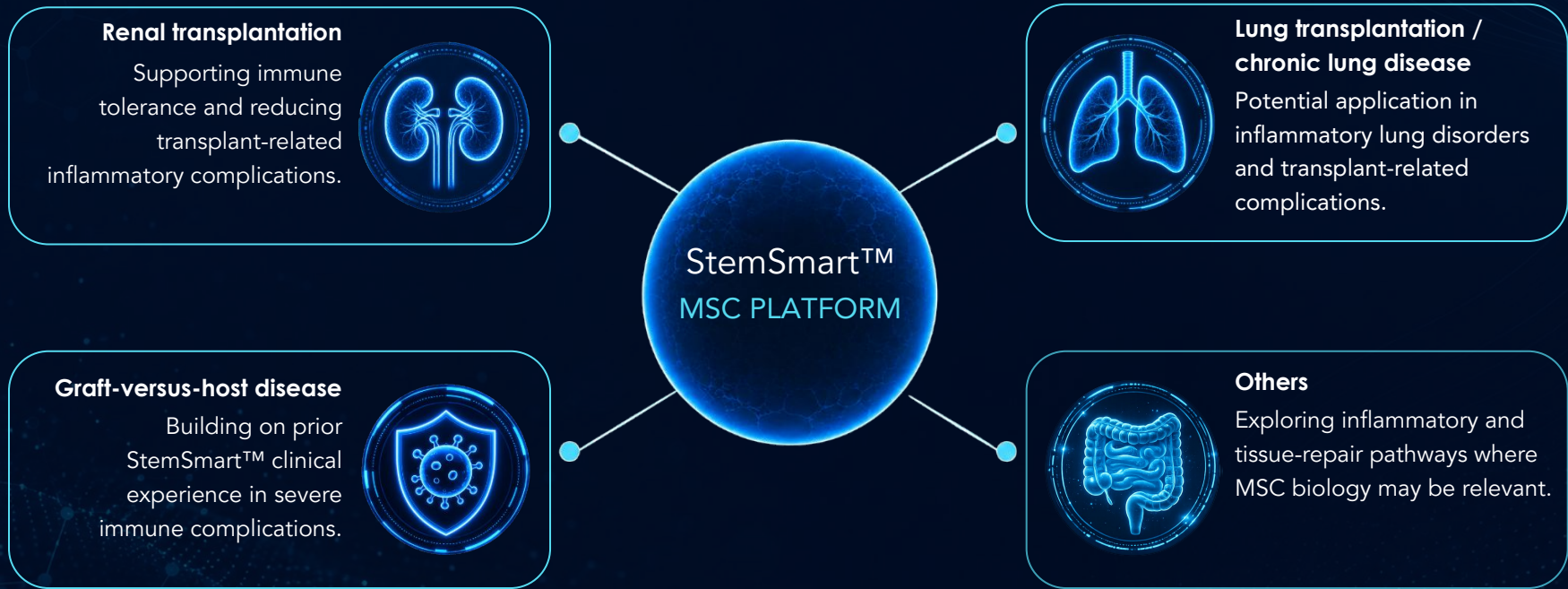
Patient criteria & numbers in development

Data intended to support partnering for Phase 3 and
commercialisation globally

Future StemSmart™ Platform Opportunities

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Expanding into high-inflammation conditions where current treatment options remain limited



A patented MSC platform with potential beyond Crohn's disease.

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