Industry Report: Stem Cell Therapies

Regulatory Validation Meets Near-Term Catalysts

10 June 2026
Sector: Healthcare

Stem cell therapy is moving from scientific promise toward commercial validation, led by the first FDA approval of an MSC therapy in the United States and conditional approvals of iPSC-derived therapies in Japan. The sector remains early stage, but the investment case is improving due to:

1. Regulatory precedent is now emerging.
2. Manufacturing platforms are becoming more scalable.
3. Large chronic disease markets remain underserved.
4. Near-term data from Cynata and a BLA filing from Mesoblast could act as a tailwind and reinvigorate the sector.

ASX Code	Share Price (AU$)	Market Cap (AU$m)
MSB	2.040	2,641
CYP	0.265	65
NSB	0.074	29

Source: Iress, accessed 9 June 2026

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The range of indications under investigation is broad, with trials being conducted across cardiovascular disease, retinal disease, and autoimmune conditions such as multiple sclerosis, lupus, and rheumatoid arthritis, among others. A search for "stem cells" on ClinicalTrials.gov identifies more than 3,600 studies across recruiting, active and planned stages of development, highlighting the breadth of global research activity in the field.[1]

With the stem cell therapy market expected to grow from US $456 million in 2024 to US $1.67 billion by 2030, representing a CAGR of 25%, stem cell therapies represent a potentially transformative approach to treating large, debilitating, and underserved conditions.[2]

Aging global populations with chronic and degenerative diseases represent a growing burden on healthcare systems. Stakeholders are seeking novel therapies for these difficult-to-treat conditions. With the first FDA approval of an MSC-based treatment in 2024, and new cost-effective methods of production emerging, the industry may be on the verge of transforming the standard of care for chronic and degenerative diseases.

Key Near-Term Catalysts

ASX Code	Catalyst	Timeframe
CYP	Phase 3 Knee Osteoarthritis top-line results	June 2026
CYP	Phase 2 Acute Graft vs Host Disease top-line results	June 2026
MSB	First sites to be activated for label extension Ryoncil in adults with SR-aGvHD	Q2 CY2026
MSB	BLA filing for rexlemestrocel-L in Heart Failure	Q2 CY2026
NSB	Phase 2 clinical trial initiation for refractory/fistulising Crohn's disease	H2 CY2026

Indicative timing only. Events may be delayed, modified or may not occur.

[1] ClinicalTrials.gov - accessed 27 May 2026
[2] Stem Cell Therapy Market (2025 - 2030) - Grand View Research

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Contents

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Drivers of Demand

The rising global burden of chronic and degenerative diseases is the primary demand driver. Cancer, which accounts for nearly 10 million deaths annually according to the WHO,[3] is the largest current therapeutic target for cell therapies. Cardiovascular disease, neurological disorders (Parkinson's, Alzheimer's, multiple sclerosis), diabetes, and musculoskeletal conditions represent the pipeline expansion opportunity. The global population aged 60 and over is projected to double to 2.1 billion by 2050, directly increasing the incidence of these conditions.[4]

Technological advancement is itself a demand driver: as therapies become more effective and manufacturing costs decline, the addressable patient population expands from the most severe and refractory cases, which represent the current market, toward earlier lines of treatment and prevention.

The approval of Ryoncil® in 2024 represented a landmark validation for the stem cell industry. Prior to Ryoncil, there was no FDA-approved MSC therapy in the United States and little clear US regulatory precedent for this specific class. The magnitude of the challenge is underscored by Mesoblast's journey, which spanned more than two decades and required over USD 1 billion in funding before ultimately securing approval. In many respects, the company has become a pioneer for the sector, helping define the regulatory and clinical pathway that future stem cell developers may now follow.

What are Stem Cells

A stem cell is defined by two core characteristics: self-renewal (the ability to replicate indefinitely) and potency (the ability to differentiate into specialised cell types such as neurons, cardiac muscle cells, or blood cells). Stem cells are of key interest because of their anti-inflammatory, immunomodulatory and tissue repair capabilities.

Types of Stem Cells

Hematopoietic Stem Cells (HSCs)
Hematopoietic stem cells (HSCs) are the most clinically mature subsector. They are primarily found in bone marrow and are responsible for producing all blood cell types, including red blood cells, white blood cells, and platelets. Transplantation of HSCs, commonly referred to as a bone marrow transplant, is the standard of care for many blood cancers and disorders, including leukaemia, lymphoma, myeloma, and sickle cell disease.

Mesenchymal Stem Cells (MSCs)
Mesenchymal stem cells (MSCs, also referred to as mesenchymal stromal cells) are found in bone marrow, adipose tissue, and umbilical cord blood. MSCs can differentiate into bone, cartilage, and fat cells. MSCs are of particular interest due to their anti-inflammatory and immune response properties and are being investigated for conditions including graft-versus-host disease (GvHD), Crohn's disease, osteoarthritis, heart failure, and neurological disorders among others. Mesoblast is the most prominent publicly listed pure-play MSC company.

[3] Cancer - World Health Organization
[4] Ageing and Health - World Health Organization

Embryonic Stem Cells (ESCs)
Embryonic stem cells (ESCs) are derived from early-stage embryos, typically a blastocyst at approximately 4 to 5 days after fertilisation. ESCs are pluripotent, meaning they can develop into almost any cell type in the human body. When cultured under appropriate conditions, ESCs can multiply indefinitely while maintaining their pluripotency. This combination of unlimited self-renewal and the potential to generate any cell type makes ESCs a powerful tool for both research and regenerative medicine; however, their embryonic origin has made them the subject of significant ethical debate.

Induced Pluripotent Stem Cells (iPSCs)
In 2006, Shinya Yamanaka developed the induced pluripotent stem cell (iPSC). iPSCs are adult cells, typically skin or blood cells, that have been reprogrammed to a pluripotent state, meaning they can become virtually any cell type in the body. iPSC technology is regarded as the transformative platform for the next generation of stem cell medicine, with the potential for industrial-scale manufacturing and the production of allogeneic (donor-independent) cell therapies.

Recent Industry Developments

HSC transplantation, also known as bone marrow transplantation, is a well-established and routine medical procedure used to treat a wide range of blood disease, immune and metabolic disorders. HSC derived therapies were the only FDA approved treatments until recently.

First FDA Approved MSC Therapy

On 18 December 2024, the U.S. FDA approved Ryoncil (remestemcel-L), developed by Mesoblast, making it the first MSC therapy to receive FDA approval. It is indicated for the treatment of steroid-refractory acute graft-versus-host disease (SR-aGVHD) in paediatric patients aged two months and older. In January 2025, China's National Medical Products Administration (NMPA) also granted conditional approval to Ruibosheng, an umbilical cord-derived MSC product in patients aged 14 years and older.[5]

Two iPSC Derived Therapies Approved in Japan

In March 2026, Japan's Ministry of Health granted conditional and time-limited approval to two iPSC-derived therapies, marking a milestone as the first medical products based on this technology to reach the market.

Sumitomo Pharma received conditional and time-limited approval in Japan for the manufacture and marketing of AMCHEPRY® (raguneprocel) for the improvement of motor symptoms in patients with Parkinson's disease.[6]

Cuorips received conditional and time-limited marketing approval for its allogeneic iPSC-derived therapy RiHEART® for the treatment of heart failure.[7]
These developments represent a significant validation of iPSCs and stem cells in general as a therapeutic class, with a leading global regulatory authority endorsing the technology for the first time.

[5] The evolution and current situation of regulations of China's stem cell industry - Science Direct
[6] Announcement on the Approval for Manufacturing and Marketing Authorization of the Allogeneic iPS Cell-Derived Dopaminergic Neural Progenitor Cell Product "AMCHEPRY" in Japan - Sumitomo Pharma
[7] World's First iPSC-Derived Cardiomyocyte Therapy for Heart Failure Receives Conditional Approval in Japan - Cuorips

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Mesoblast (ASX:MSB)

Share Price: $2.04

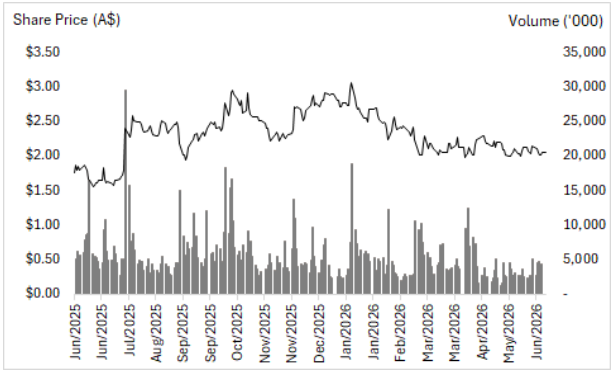
ASX:MSB
10 June 2026

The December 2024 FDA approval of Ryoncil (remestemcel-L-rknd) marked the first and only FDA-approved allogeneic mesenchymal stem cell (MSC) therapy in the United States. Ryoncil is approved for steroid-refractory acute graft-versus-host disease (SR-aGvHD) in paediatric patients aged two months and older.

Ryoncil is demonstrating early commercial traction, with March quarter net sales of US$30.3 million and revenue generated for the year approaching US$100M, supported by broad reimbursement and growing transplant centre adoption across the US.[8]

Market cap. (A$m)	2,641
Shares outstanding (m)	1,295
Shares fully diluted (m)	1,315
Market cap full dil. (A$ m)	2,682
52-week high/low (A$)	$1.53 /$3.31
Co. Website	www.mesoblast.com

Source: Iress, accessed 9 June 2026



Data adapted from Iress, accessed 9 June 2026

The Technology

Mesoblast's technology platform is based on mesenchymal stromal cells (MSCs), which are derived from the bone marrow of healthy, unrelated adult donors. Unlike autologous therapies which require cells to be harvested from and returned to the same patient, Mesoblast's therapies are allogeneic, meaning they can be manufactured at scale from donor material and stored as an off-the-shelf product ready for use. This is a fundamental advantage in terms of logistics, cost, and time-to-treatment.

The therapeutic mechanism centres on immunomodulation. When administered to a patient experiencing severe inflammation, the MSCs respond by releasing anti-inflammatory factors. These factors counter and modulate multiple arms of the immune system, reducing the damaging inflammatory process. Critically, it is believed that MSCs do not simply suppress the immune system broadly (as steroids do) but rather recalibrate the immune response. This is why MSC therapy can be effective in conditions where steroids have failed.

Lead Asset: Ryoncil (Remestemcel-L)

Ryoncil's approval was based on data from a 54 patient, phase 3 trial in children 18 and younger. The trial met its primary endpoint: 70% of patients achieved an overall response at day 28, significantly exceeding the prespecified threshold of 45%. The 100-day overall survival rate was 87% for responders versus 47% for non-responders.[9]

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

Graft-versus-host disease is a potentially fatal complication that occurs when donor immune cells attack the recipient's body following a bone marrow transplant. Acute GvHD typically develops within the first 100 days post-transplant and can affect the skin, gastrointestinal tract, and liver. The standard first-line treatment is corticosteroids, but roughly 40-50% of

[8] ASX Announcement - Mesoblast Reports Ryoncil Net Revenues of US$30.3m and Improved Net Operating Cash Spend for the Quarter to US$4.1 million

[9] ISCT Hails Landmark US FDA Approval of RYONCIL® as Major Milestone for MSC Field - International Society for Cell & Gene Therapy

patients do not respond adequately to steroids or develop steroid-refractory disease.[10]

SR-aGvHD carries an extremely poor prognosis, with only 25–30% of patients with grade III aGvHD and 1–2% of patients with grade IV aGVHD surviving longer than 2 years.[11] Approximately 10,000 patients undergo allogeneic bone marrow transplants in the US annually, of whom roughly 2,300 are children.[12] [13] Approximately half of these children develop acute GvHD, and roughly half of those are steroid-refractory.[14]

Prior to Ryoncil's approval, there was no FDA-approved therapy specifically for paediatric SR-aGvHD patients under 12. Ruxolitinib (Jakafi®) was approved for adult and paediatric patients aged 12 and older with SR-aGvHD, but younger children had no approved treatment option.

Adult Steroid-Refractory Acute Graft-Versus-Host Disease (SR-aGvHD)

Mesoblast is looking beyond paediatric SR-aGvHD with a label extension into the larger, adult SR-aGvHD market. Mesoblast will partner with the United States National Institutes of Health (NIH) on a pivotal trial of Ryoncil in adults with severe aGvHD refractory to corticosteroids (SR-aGvHD).

That follows Mesoblast's Expanded Access program in which patients aged 12 and older with SR-aGvHD who failed ruxolitinib or other second-line treatments achieved 73% survival at day 100.[15] In patients who fail ruxolitinib survival is as low as 20-30% by day 100.[16]

Ruxolitinib (Jakafi) is an FDA-approved treatment for steroid-refractory graft-versus-host disease (GVHD) in patients over 12 years.

The trial for label extension of Ryoncil in adults with SR-aGvHD was cleared to begin by the FDA, with first sites to be activated this quarter.

Chronic Lower Back Pain (CLBP) with Degenerative Disc Disorder (DDD)

It is estimated that there are around 30 million people in the US with chronic lower back pain.[17] Of those 40% is caused by degenerative disc disorder.[18] Lower back pain is a leading cause of workforce loss and disability. It affects quality of life, mental wellbeing and limit work activities and engagement with family and friends.

Mesoblast recently completed recruitment for its 300-patient chronic lower back pain confirmatory phase 3 trial.

[10] Steroid-refractory chronic graft-versus-host disease: treatment options and patient management - PMC
[11] Treatment and unmet needs in steroid-refractory acute graft-versus-host disease - PMC
[12] Life expectancy, outcomes improving after BMT but still behind general population, study finds | UAB News
[13] Transplant Activity Report | Blood Stem Cell
[14] Remestemcel-L-rknd for Steroid-Refractory Acute Graft-vs-Host Disease in Pediatric Patients | Allergy and Clinical Immunology | JAMA | JAMA Network
[15] Ryoncil (Remestemcel-L) for Third-Line Treatment of SR-aGVHD in Adolescents and Adults - Transplantation and Cellular Therapy, Official Publication of the American Society for Transplantation and Cellular Therapy
[16] Remestemcel-L-Rknd (Ryoncil) Improves Survival after Failure of Second-Line Treatment for SR-aGVHD - ScienceDirect
[17] Comparative Review of the Socioeconomic Burden of Lower Back Pain in the United States and Globally
[18] Clinical diagnosis for discogenic low back pain - PMC

The placebo-controlled trial aims to show a significant difference in reduction of low back pain at 12 months between rexlemestrocel-L and control. Secondary endpoints include improvements in function, quality of life, and cessation of pain medication, including opioids.

Mesoblast previously completed a 404-patient phase 3 trial where patients either received rexlemestrocel-L with hyaluronic acid (HA), without hyaluronic acid (HA) or saline control.[19]

All treatment groups showed substantial improvement from baseline in low back pain. Unfortunately, the primary endpoint for the trial did not reach significance for either treatment group compared to control. The previous trial's primary endpoint was a composite measure requiring both a reduction in pain and an improvement in function to be met simultaneously. While neither treatment group met this composite threshold compared to control, the reduction in pain component was achieved. This pain endpoint has since been agreed with the FDA as the standalone primary endpoint for the current 300-patient confirmatory phase 3 trial.

While the primary end point was not met there were promising results in patients who had CLBP of less than the median of 68 months. Indicating the treatment may be more effective on patients who have had the condition for less time.

Treatment also demonstrated a positive effect on opioid use. Results showed a greater reduction in opioid dose for rexlemestrocel-L with hyaluronic acid compared to controls. 28% of patients treated with rexlemestrocel-L with hyaluronic acid were not taking opioids at 36 months vs 8% for control[20].

Following a Type B meeting with the FDA, the agency confirmed that a clinically meaningful reduction in pain intensity in the active arm versus placebo at 12 months can support product efficacy. The FDA also stated that results on opioid reduction from at least one adequate and well-controlled trial could be included in the Clinical Studies section of product labelling.

Top-line results are expected in mid-CY2027 with a positive readout to be used in support of an expected regulatory filing in Q3 CY2027.

Heart Failure with Reduced Ejection Fraction (HFrEF)

Heart Failure with Reduced Ejection Fraction (HFrEF), also known as systolic heart failure, is a condition where the heart's left ventricle weakens and cannot contract effectively. It is estimated that 8 million people in the

[19] Efficacy and safety of allogeneic mesenchymal precursor cells with and without hyaluronic acid for treatment of chronic low back pain: a prospective, randomized, double blind, concurrent-controlled 36-month study - ScienceDirect
[20] Efficacy and safety of allogeneic mesenchymal precursor cells with and without hyaluronic acid for treatment of chronic low back pain: a prospective, randomized, double blind, concurrent-controlled 36-month study - ScienceDirect

United States will have heart failure by 2030[21]. Of those 50% will have HFrEF[22]. Individuals with HFrEF have a mortality of 50% after 5 years[23].

Heart failure is classified in relation to the severity of the symptoms experienced by the patient. The most commonly used classification system was established by the New York Heart Association (NYHA) and ranges from Class I (mild) to Class IV or end stage (severe).

Revascor (rexlemestrocel-L) is a Phase 3 product candidate being developed as a treatment for NYHA II/III HFrEF and HFrEF on LVADs.

Mesoblast is planning to file a Biologics License Application (BLA) with the FDA for patients with Heart Failure with Reduced Ejection Fraction (HFrEF) on Left Ventricular Assist Devices this quarter.[24]

Mesoblast originally planned to file for accelerated approval given Revascor's RMAT status but recently decided it will file for full approval. That follows newly found data that a dose of Revascor at the time of LVAD implantation reduced right heart failure hospitalisations, mortality from right heart failure and portal hypertension with major bleeding events.[25]

If Revascor is approved for patients with LVADS, Mesoblast will seek approval for NYHA Class II/III patients via a label extension.

Left Ventricular Assist Device (LVAD): a device that helps pump blood from the heart to the rest of the body.

Biologics License Application (BLA): a submission to the FDA requesting permission to market a biological product.

RMAT (Regenerative Medicine Advanced Therapy): a designation created by the U.S. Food and Drug Administration (FDA) to expedite the development and review processes for promising new therapies, such as cell therapies, gene therapies, and tissue-engineered products.

Pipeline

Beyond the indications mentioned Mesoblast also has programs in place or in planning for Duchenne Muscular Dystrophy (DMD), Ulcerative Colitis, Crohn's and Lupus nephritis.

Product	Indication	Stage
Ryoncil	Paediatric steroid-refractory acute graft-versus-host disease	Approved
Ryoncil	Adult steroid-refractory acute graft-versus-host disease	Pivotal planned
Rexlemestrocel-L	Chronic lower back pain	Phase 3
Rexlemestrocel-L	End-stage Heart Failure with Reduced Ejection Fraction (HFrEF)	BLA filing
Rexlemestrocel-L	Ischemic End-stage Heart Failure with Reduced Ejection Fraction (class II/III)	Future label-expansion trial

[21] Forecasting the Impact of Heart Failure in the United States: A Policy Statement From the American Heart Association - PMC
[22] Heart Failure with Reduced Ejection Fraction: A Review - PubMed
[23] Heart failure with reduced, mildly reduced, and preserved ejection fraction: outcomes and predictors of prognosis - Polish Archives of Internal Medicine
[24] Mesoblast R&D Day Presentation
[25] ASX Announcement - Ryoncil Profits Underpinning Substantial Growth Pipeline

Anticipated Upcoming Catalysts

Catalyst	Timeline	Significance
BLA filing for full FDA approval for HFrEF with LVADs	Q2 CY2026	Full approval, if granted, could allow Mesoblast to commercialise in heart failure without the obligation of a post-approval confirmatory study.
CLBP phase 3 top-line results	Mid CY2027	A positive readout would enable a BLA filing and position Mesoblast to pursue a large potential revenue opportunity.
BLA filing for FDA approval for chronic lower back pain	Q3 CY2027	Filing would mark Mesoblast's transition toward a potential second (or third) commercial product, broadening the company's revenue base beyond Ryoncil®. RMAT designation means the FDA could grant priority review, shortening the time to a potential approval decision.
Potential FDA approval and US launch for chronic lower back pain	Q2 CY2028	Would significantly expand Mesoblast beyond orphan indications into a large-market pain indication
Initiation of label-expansion trial for NYHA II/III HFrEF	Following regulatory progress for HFrEF with LVADs	Expands rexlemestrocel-L into a potential cardiovascular indication with >US$10B TAM.
Interim analysis in adult SR-aGvHD trial	~12 months after trial commencement	Potential early success signal.
Adult SR-aGvHD Phase 3 trial completion	Expected within 12–18 months	Expands Ryoncil into adult patients, increasing addressable market roughly 3x versus paediatric.

Table 1: Indicative timing only. Events may be delayed, modified or may not occur.

Cynata (ASX:CYP)

Cynata Therapeutics (ASX: CYP) is approaching two potentially transformative clinical data readouts in Q2 CY2026. The first is in knee osteoarthritis and second in acute graft-versus-host disease (aGvHD), either of which could serve as a significant inflection point for the company's valuation.

Cynata claims the Cymerus platform addresses the central challenges constraining the broader MSC therapy sector:

1. Batch-to-batch variability, and
2. Scalability

By deriving MSCs from a single iPSC donor line, Cynata can potentially produce standardised, off-the-shelf cell therapy products at commercial scale, an important manufacturing advantage at this stage of clinical development.

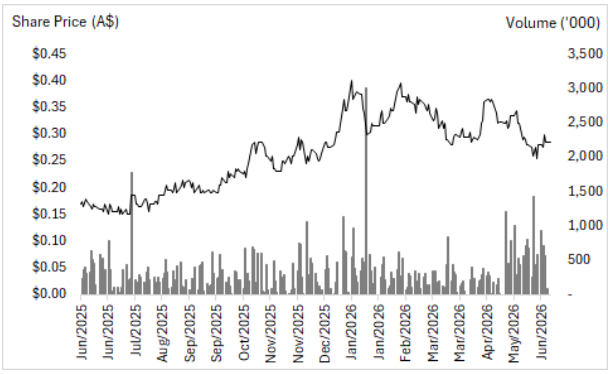
The company is targeting large, underserved markets. Osteoarthritis affects approximately 600 million people globally, with the economic burden in the United States alone exceeding US$460 billion annually.[26] [27] There are currently no approved disease-modifying therapies for osteoarthritis.

Acute graft-versus-host disease (aGvHD), while a smaller market, carries extremely high mortality and limited treatment options, particularly in steroid-refractory populations.

Share Price: $0.265
ASX:CYP
10 June 2026

Market cap. (A$m)	65
Shares outstanding (m)	243
Shares fully diluted (m)	254
Market cap full dil. (A$ m)	67
52-week high/low (A$)	$0.145 /$0.435
Co. Website	cynata.com

Source: Iress, accessed 9 June 2026



Data adapted from Iress, accessed 9 June 2026

Cymerus Platform

The Cymerus platform is Cynata's core proprietary technology and the foundation for its product candidates. The platform uses iPSCs as the starting material, which are then differentiated to produce MSCs.

The central challenge that has constrained the MSC therapy field for decades is manufacturing consistency and scalability. Traditional MSC products are derived from donor tissue (bone marrow, umbilical cord blood, fat). Because every donor is different, and MSCs lose potency after repeated expansion in culture, each manufacturing batch can vary significantly in its biological activity. This batch-to-batch variability has contributed to inconsistent results in clinical trials across the MSC sector.

The Cymerus platform addresses this problem by deriving all MSCs from a single, well-characterised iPSC donor line. Because iPSCs can be expanded almost indefinitely before differentiation, a single iPSC line can theoretically produce an unlimited, consistent supply of MSCs. The result is a standardised, off-the-shelf product.

iPSCs (Induced pluripotent stem cells): adult cells that are genetically reprogrammed in a lab to behave like embryonic stem cells.

[26] Global, regional, and national burden of osteoarthritis, 1990–2020 and projections to 2050: a systematic analysis for the Global Burden of Disease Study 2021 - PMC

[27] A Systematic Review of the Incidence, Prevalence, Costs, and Activity/Work Limitations of Amputation, Osteoarthritis, Rheumatoid Arthritis, Back Pain, Multiple Sclerosis, Spinal Cord Injury, Stroke, and Traumatic Brain Injury in the United States: A 2019 Update - PMC

CYP-004 Knee Osteoarthritis

Osteoarthritis affects more than 32.5 million adults in the United States and over 500 million people globally, equivalent to approximately 6% of the world's population.[28] [29]

The SCUlpTOR trial (Stem Cells as a symptom- and strUcture-modifying Treatment for medial tibiofemoral OsteoaRthritis) is a randomised, double-blind, placebo-controlled Phase 3 trial evaluating CYP-004 in patients with knee osteoarthritis. The trial is sponsored by the University of Sydney and funded by an NHMRC project grant.

The trial enrolled 321 participants across centres in Sydney and Tasmania. Participants received intra-articular injections (directly into the knee joint) of either Cymerus MSCs or placebo and were followed for two years.

All participant visits were completed in November 2025, and data analysis is now underway with top-line results expected in June 2026.

The trial has two co-primary endpoints: the proportion of participants achieving an acceptable knee pain symptom state at 24 months, and the change in central medial femorotibial cartilage loss from baseline to 24 months, measured by MRI. Secondary endpoints include pain, physical function and quality of life.

The structural endpoint focused on cartilage preservation is especially important. A positive result could support CYP-004 being classified as a disease-modifying osteoarthritis drug, or DMOAD. This refers to a treatment that may slow or alter the course of the disease, rather than only relieving symptoms. No disease-modifying therapy has yet been approved for osteoarthritis, meaning a successful outcome could position CYP-004 as a first-in-class product with meaningful commercial potential.

CYP-001 GvHD

In parallel Cynata conducted a phase 2 trial for aGvHD. 65 participants were randomised to receive either standard steroid therapy in combination with CYP-001, or standard steroid therapy plus placebo.

The study's primary endpoint is the overall response rate, assessed at day 28 following treatment initiation. Topline results are expected in June 2026.

Prior to this phase 2 trial Cynata conducted a phase 1 trial enrolling 15 adult patients with acute GvHD. The trial achieved a two-year survival rate of 60%. No serious adverse events were recorded. 87% of patients improved by at least one grade in disease classification (an overall response), and 53% achieved a complete response.[30]

[28] OA Prevalence and Burden - Osteoarthritis Action Alliance
[29] Osteoarthritis - World Health Organization
[30] ASX Announcement - Cynata Completed Clinical Study Report for Phase 1 trial of Cyp-001 in GvHD

CYP-006TK Diabetic Foot Ulcers (DFUs).

Approximately 18.6 million people worldwide are affected by a diabetic foot ulcer (FDU) each year, including 1.6 million people in the United States.[31]

Cynata is developing CYP-006TK for diabetic foot ulcers, a serious complication of diabetes where chronic, non-healing wounds can lead to infection, hospitalisation and in severe cases, amputation.

Cynata completed a Phase 1 clinical trial of CYP-006TK in DFUs in December 2024. The trial demonstrated safety and tolerability, while also generating encouraging efficacy signals versus standard of care. At 12 weeks, mean wound surface area decreased by 64.6% in the CYP-006TK group compared with 22.0% in the standard of care control group.[32] At 24 weeks, mean wound surface area had decreased by 83.6% in the CYP-006TK group compared with 47.8% in the control group.[25]

The results were particularly notable in larger wounds, which are generally more difficult to heal and represent a higher-risk patient population. For wounds larger than 200mm², Cynata reported an 84.2% reduction in wound surface area at 24 weeks in the CYP-006TK group, compared with a 32.2% reduction in the standard of care control group.[33]

Cynata's stated next steps are to plan further clinical development, engage with regulators and pursue potential commercial partnerships to advance CYP-006TK into later-stage DFU trials.

CYP-001 Kidney Transplant

Cynata is also evaluating its Cymerus MSC technology in kidney transplantation. There are around 25-30 thousand kidney transplants performed in the United States per year.[34] Around 20% of people who receive a kidney transplant experience acute rejection.[35]

The NEREID study is an investigator-initiated Phase 1/2 clinical trial being conducted at Leiden University Medical Centre in the Netherlands.

The study is assessing CYP-001 as an adjunctive therapy in kidney transplant recipients. The objective is to determine whether Cynata's iPSC-derived MSCs can help modulate the immune response after transplantation and potentially reduce reliance on conventional calcineurin inhibitor-based immunosuppression.

Calcineurin inhibitors (CNIs): the cornerstone of maintenance immunosuppression for solid organ transplants and various autoimmune diseases.

The NEREID trial is designed to enrol 16 kidney transplant recipients. Cohort 1, which consisted of three patients who received a single intravenous infusion of CYP-001 in addition to standard care, has

[31] Diabetic Foot Ulcers: A Review - PubMed
[32] CYP-006TK Demonstrates Safety and Efficacy in DFU Clinical Trial
[33] CYP-006TK Demonstrates Safety and Efficacy in DFU Clinical Trial
[34] The Kidney Health Crisis: Join Our Fight for Kidney Transplants For All | National Kidney Foundation
[35] Long-Term Outcomes after Acute Rejection in Kidney Transplant Recipients: An ANZDATA Analysis - PMC

completed treatment and follow-up. Cynata reported no safety concerns and no episodes of transplant rejection in this first cohort.

Following review by the independent Data and Safety Monitoring Board, the study has progressed to Cohort 2, where patients will receive two infusions of CYP-001 alongside standard immunosuppression.

The trial will follow patients for 12 months. Based on the December 2025 Cohort 1 safety review and the 12-month follow-up period, Cohort 2 results could potentially be available in Q1-Q2 CY2027, although Cynata has not provided formal timing guidance.

Anticipated Upcoming Catalysts

Catalyst	Expected Timing	Significance
Phase 3 osteoarthritis (CYP-004) trial results	June 2026	Positive data could support TGA marketing approval and trigger licensing discussions.
Phase 2 aGvHD (CYP-001) trial results	June 2026	Positive outcome required to advance toward FDA approval pathway.
Phase 1/2 kidney transplantation (NEREID) trial cohort 2 results	Q1-Q2 CY2027	A clean safety readout would validate CYP-001's potential
Commercial partnering	Post results readout	The most direct value realisation event for shareholders. Licensing, joint development, or M&A transactions could provide non-dilutive capital to fund future trials and validate the Cymerus platform's commercial worth.

Table 2: Indicative timing only. Events may be delayed, modified or may not occur.

NeuroScientific Biopharmaceuticals Ltd (ASX:NSB)

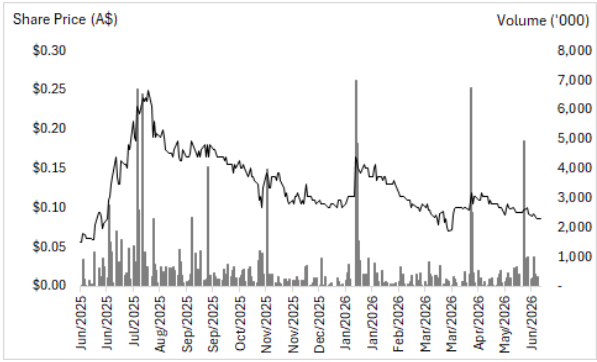
NeuroScientific Biopharmaceuticals Ltd (ASX:NSB) has recently directed efforts toward its StemSmart mesenchymal stem cell (MSC) platform, acquired via the purchase of Isopogen WA Ltd, completed in June 2025. The company is targeting immune-mediated inflammatory diseases, with an initial clinical focus on refractory and fistulising Crohn's disease.

NSB's early clinical data from its Special Access Scheme (SAS) program in fistulising Crohn's disease showed an 80% clinical response rate (4 of 5 patients), providing initial proof-of-concept for StemSmart in a real-world setting.[36]

Share Price: $0.074
ASX:NSB
10 June 2026

Market cap. (A$m)	29
Shares outstanding (m)	390
Shares fully diluted (m)	469
Market cap full dil. (A$ m)	35
52-week high/low (A$)	$0.056 /$0.26
Co. Website	www.neuroscientific.com

Source: Iress, accessed 9 June 2026



Data adapted from Iress, accessed 9 June 2026

StemSmart

StemSmart is a globally patented manufacturing process developed at Royal Perth Hospital. The process takes donor-derived bone marrow MSCs, isolates and cultures them, and then applies a proprietary 'priming' step designed to enhance the cells' therapeutic potency and safety profile.

The StemSmart MSC product is manufactured under Good Manufacturing Practice (GMP) standards with a TGA (Therapeutic Goods Administration) product manufacturing licence.[37] The company states that StemSmart-activated MSCs perform optimally in diseases characterised by high to severe inflammation, particularly where conventional treatments such as biologics and steroids have failed.

The key differentiation NSB claims for StemSmart relative to other MSC products is the proprietary activation process, which the company asserts improves the anti-inflammatory efficacy of the cells compared to unprimed MSCs.[38]

To date, the StemSmart platform has been assessed in 11 clinical trials or studies, conducted by Royal Perth Hospital (RPH) before the acquisition. The product has shown encouraging efficacy signals across multiple settings, while maintaining a favourable safety profile, with no serious adverse events reported.

Crohn's Disease

NSB is initially positioning StemSmart as a potential treatment for refractory and fistulising Crohn's disease, two difficult-to-treat forms of inflammatory bowel disease where patients often fail conventional therapies such as steroids, immunosuppressants and biologics.

Crohn's disease is a chronic inflammatory condition of the gastrointestinal tract. In severe cases, ongoing inflammation can lead to fistulas, which are

[36] ASX Announcement - Remarkable Results from Patients treated with StemSmart Under the Special Access Program
[37] ASX Announcement - Neuroscientific to Acquire Leading Stem Cell Technology
[38] StemSmart - Neuroscientific

abnormal tunnels that form between the bowel and other organs or the skin. Fistulising Crohn's is particularly challenging because fistulas can be persistent, painful, prone to infection and difficult to close using standard medical or surgical approaches.

It is estimated that 1 million people in the United States have Crohn's disease.[39] While anti-inflammatory medications remain the standard treatment for disease relapses or flares, they have limited long-term effectiveness, with only around 20% of patients achieving sustained remission using traditional approaches.[40] Fistulas affect about 30% of people with Crohn's disease.[41]

Prior to NSB's acquisition of Isopogen WA, StemSmart had already generated early clinical evidence in refractory Crohn's disease. A phase 2 study involving patients with biologic-refractory Crohn's reported a 78% clinical response rate and a 44% clinical remission rate at day 42, with no serious adverse events reported.[42] These results are early stage and require confirmation in larger controlled studies, but they provide an initial efficacy signal in a high-need patient population.

NSB has advanced StemSmart through a Special Access Scheme (SAS) program in fistulising Crohn's disease under the TGA's Category B pathway.

SAS results have been encouraging. In May 2026, NSB reported that four out of five treated patients achieved a clinical response (defined as a closure of fistulas opening or a decrease in fistula discharge of 50% or greater) representing an 80% response rate.[43] The fifth patient demonstrated a partial response with ongoing improvement.[44] While the patient numbers remain very small, the data provides an initial real-world signal that StemSmart may have activity in fistulising Crohn's.

NSB has indicated that Phase 2 start-up activities are underway, including commercial manufacturing transfer to Q-Gen Cell Therapeutics, clinical protocol development and regulatory planning across Australia and the United States.

An Australia-only phase 2 clinical trial is planned to start by 2H CY2026 in fistulising Crohn's disease. In parallel NSB will conduct a phase 2 clinical trial in US & Australia for the refractory Crohn's disease.

[39] Definition & Facts for Crohn's Disease - NIDDK
[40] UH Researchers Find Potential Breakthrough for Crohn's Disease Treatment
[41] Crohn's Disease: Facts, Statistics, and You
[42] ASX Announcement: Neuroscientific to Acquire Leading Stem Cell Technology
[43] ASX Announcement - Remarkable Results from Patients treated with StemSmart Under the Special Access Program
[44] ASX Announcement: Successful Clinical Results Achieved under Special Access Program

Steroid-Refractory Graft-versus-Host Disease (SRGvHD)

StemSmart is also positioned as a potential therapy for Steroid-Refractory Graft-versus-Host Disease (SR-GvHD).

Prior to NSB's acquisition of Isopogen WA, StemSmart was evaluated in a Phase 1 trial involving 19 adult patients with steroid-refractory GvHD, including 12 patients with acute GvHD and seven patients with chronic GvHD. In acute GvHD, 11 of 12 patients responded to treatment, with 58% achieving a complete response and 33% achieving a partial response. The reported three-year survival rate was 55%, compared with an expected survival rate of approximately 15% to 20% in this high-risk population.[45]

In chronic GvHD, 58% of patients responded to treatment, including 29% who achieved a complete response and 29% who achieved a partial response. The therapy was also administered to 10 paediatric patients on compassionate grounds, including six children with acute GvHD and four with chronic GvHD. All children survived at least 12 months post-transplant, and three were alive more than six years after treatment.[46]

The existing data is encouraging, however from a modest group, early-stage and compassionate-use settings. Larger, controlled studies would be required to confirm efficacy, durability of response and safety.

Anticipated Upcoming Catalysts

Catalyst	Expected Timing	Significance
Manufacturing technology transfer completion at Q-Gen	2H CY2026	Enables clinical-scale supply of StemSmart for Phase 2 and beyond
Phase 2 clinical trial initiation for refractory/fistulising Crohn's disease	2H CY2026	First formal Phase 2 studies; pivotal step toward regulatory and reimbursement approval
Pre-IND meeting with US FDA	Not guided	Provides regulatory clarity on Phase 2 study design, endpoints, and development pathway
Second indication Phase 1/2 start-up activities	CY2027	Expands StemSmart platform into a second therapeutic indication

Table 3: Indicative timing only. Events may be delayed, modified or may not occur.

[45] NSB ASX Announcement: Previous StemSmart Studies Demonstrate Clinical Response in Severe GvHD
[46] NSB ASX Announcement: Previous StemSmart Studies Demonstrate Clinical Response in Severe GvHD

Risks

Clinical Risk: The most pervasive risk in the sector is clinical failure. The possibility that a therapy that shows promise in early-stage trials fails to demonstrate sufficient efficacy or safety in larger, randomised studies required for regulatory approval

Manufacturing risk: The inability to manufacture a cell therapy at commercial scale with consistent quality has derailed multiple programmes that showed clinical promise. The complexity of Current Good Manufacturing Practice (cGMP) cell manufacturing means that even well-resourced companies can encounter serious quality deficiencies.

Regulatory Risk: Even programmes with strong Phase 3 data may receive a Complete Response Letter (FDA's mechanism for declining approval) due to manufacturing deficiencies, incomplete safety data, or label disputes. Approved therapies may be subject to post-market requirements that constrain commercial rollout.

Reimbursement and Pricing Risk: Approved cell therapies command extreme price points relative to conventional biologics, with Ryoncil reportedly priced in the order of US$1.5 million per treatment course.[47] These prices create friction with insurers and hospitals, which can slow uptake even after a therapy is approved.

Reputational Risk from Unregulated Clinics: The legitimate stem cell industry operates alongside a large, poorly regulated network of clinics, particularly in the United States, that sell unproven cell injections for a wide range of conditions. Harm caused by these clinics, or regulatory crackdowns against them, can damage public perception of the entire sector even when the science is unrelated. For listed developers, the risk is guilt by association: a high-profile incident could weigh on share prices and make doctors more cautious about adopting legitimately approved products.

Long-Term Safety and Durability Risk: Cell therapies carry risks that other medicines do not. Once cells are infused or implanted, they cannot be easily removed, and iPSC-derived products in particular carry a theoretical risk of forming tumours or developing into the wrong cell type. Japan's recent approvals of two iPSC-derived therapies are conditional, requiring confirmatory data within seven years or the approvals can be revoked, which highlights how much remains unknown about long-term outcomes.

Funding Risk: Clinical-stage cell therapy companies are heavily dependent on continuous access to equity capital markets and strategic partnerships to fund their multi-year development programmes. A sustained period of adverse market conditions can make equity financing prohibitively dilutive or entirely unavailable for smaller companies.

[47] FDA Grants Orphan Drug Exclusivity to Mesoblast's Ryoncil for Pediatric GVHD | Managed Healthcare Executive

Appendix 1: Peer Comparison

ASX Code	Market Cap (A$m)	Cash (A$m) as of 31 Mar 2026	Platform	Lead Indication	Clinical Stage	YTD Receipts from Customers (A$m)
MSB	2,641	121.8	Bone marrow-derived MSC	Paediatric SR-aGvHD	Approved	62.6
CYP	65	1.6[1]	iPSC-derived MSC	Knee osteoarthritis, aGvHD	Phase 3, Phase 2	Nil
NSB	29	5.7	Bone marrow-derived MSC	Fistulising and Refractory Crohn's Disease	Pre-phase 2	Nil

[1] Raised $1.5m via institutional placement as per 4 May 2026 announcement. Source: Company announcements

Appendix 2: Issued Capital

Security	Description	On Issue
MSB	Ordinary Fully Paid	1,294,612,776
MESO	Mesoblast Limited - American Depositary Shares	1,295,873,365
MSBAP	ADS WARRANTS	884,838
MSBAO	WARRANTS	15,027,327
MSBAA	WARRANTS 2	2,000,000
MSBAB	WARRANTS 3	2,000,000

Source: Iress accessed 9 June 2026

Security	Description	On Issue
CYP	Ordinary Fully Paid	243,454,369
CYPAV	OPT EXP 10-SEP-2026 EX $0.40	500,000
CYPAW	OPT EXP 10-SEP-2026 EX $0.50	750,000
CYPAX	OPT EXP 10-SEP-2026 EX $0.60	1,750,000
CYPAR	OPT EXP 23-NOV-2027 EX $0.51	300,000
CYPAS	OPT EXP 30-JUN-2028 EX $0.176	2,033,333
CYPAU	OPT EXP 12-SEP-2028 EX $0.28	1,000,000
CYPAE	OPT EXP 20-NOV-2028 EX $0.185	1,910,000
CYPAF	OPT EXP 16-JAN-2029 EX $0.195	975,000
CYPAT	OPT EXP 17-APR-2029 EX $0.29	1,800,000

Source: Iress accessed 9 June 2026

Security	Description	On Issue
NSB	Ordinary Fully Paid	389,718,547
NSBAI	Option Expiring 07-Mar-2021 Deferred	29,432,237
NSBAT	PERFORMANCE RIGHTS	1,500,000
NSBAG	OPT EXP 21-JUN-2026 EX $0.40	5,000,000
NSBAN	OPT EXP 17-JUN-2027 EX $0.40	250,000
NSBAQ	OPT EXP 27-JUN-2028 EX $0.07	40,000,000
NSBAR	OPT EXP 15-SEP-2028 EX $0.15	1,500,000
NSBAS	OPT EXP 15-SEP-2028 EX $0.25	1,500,000

Source: Iress accessed 9 June 2026

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Appendix 3: Top Shareholders

Mesoblast Limited (ASX:MSB) as of 31 May 2026		
Shareholder	**Ordinary Share Equivalent**	**Held (%)**
Gregory George[1]	272,002,539	21.01%
Silviu Itescu	70,137,791	5.42%
State Street Global Advisors, Inc.	67,013,506	5.18%
JPMorgan Chase & Co.	64,470,535	4.98%
William Gueck[2]	62,379,750	4.82%
M&G Investment Management Limited	42,776,223	3.30%
Vanguard Capital Management, LLC	28,137,429	2.17%
BlackRock, Inc.[3]	23,375,535	1.81%
Vanguard Investments Australia Limited	20,590,446	1.59%
Dimensional Fund Advisors LP	17,060,910	1.32%
Thorney Investment Group Australia Pty. Ltd.	14,116,398	1.09%

Source: Iress as of 31 May 2026

** Mesoblast ADRs trade under the symbol of MESO. Each Mesoblast ADR is equivalent to 10 ordinary shares of Mesoblast traded on the Australian Securities Exchange.*

1 Gregory George holds 12,855,159 ordinary shares (ASX) and 25,914,738 ADRs (NASDAQ: MESO)

2 William Gueck holds 6,237,975 ADRs

3 BlackRock, Inc holds 17,066,985 ordinary shares (ASX) and 630,855 ADRs (NASDAQ: MESO)

Cynata Therapeutics Limited (ASX:CYP) as of 31 May 2026		
Shareholder	**Shares Held**	**Held (%)**
Bioscience Managers Pty Ltd	23,588,040	9.69
Fidelity International Ltd	20,967,806	8.61
Acuity Capital Investment Management Pty Ltd	11,500,000	4.72
FUJIFILM Holdings Corporation	8,088,403	3.32
Craig Darby	4,213,853	1.73
Kenneth Wilson	3,549,905	1.46
AGATI PTY LTD	2,803,862	1.15
Ross MacDonald	2,000,000	0.82
Aily Lamb	1,950,000	0.80
David Prodrick	1,700,138	0.70

Source: Iress as of 31 May 2026

Neuroscientific Biopharmaceuticals Ltd (ASX:NSB) as of 09 June 2026		
Shareholder	**Shares Held**	**Held (%)**
Sturm West Pty Ltd	41,320,713	10.60
Mr Paul Damien John Fry and Ms Gillian Laura Evans	22,471,602	5.77
Mcrae Technology Pty Ltd.	15,622,262	4.01
Robert McKenzie	5,781,475	1.48
Trust Company Funds Management Ltd.	5,561,704	1.43
Anton Uvarov	5,000,000	1.28
Robert Martin	4,544,286	1.17
Utas Holdings Pty Ltd	3,954,123	1.01
Ratdog Pty Ltd	2,857,143	0.73
Edith Cowan University	2,555,556	0.66

Source: Iress as of 31 May 2026 and Company Announcements 9 June 2026, 3 June 2026

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