

ASX ANNOUNCEMENT

13 December 2018

NHMRC to Fund Major Phase 2 Clinical Trial of Cynata's Cymerus™ MSCs in Patients with Osteoarthritis

Melbourne, Australia; 13 December 2018: Cynata Therapeutics Limited (ASX: CYP), a clinical-stage biotechnology company specialising in cell therapeutics, is pleased to announce that the Australian National Health and Medical Research Council (NHMRC) has approved a grant to fund a Phase 2 clinical trial to evaluate Cynata's Cymerus™ mesenchymal stem cells (MSCs) as a treatment for osteoarthritis.

Key Highlights

- **448-patient Phase 2 clinical trial in osteoarthritis expected to commence in 2H 2019**
 - Costs of trial substantially funded by NHMRC; no cash contribution from Cynata
 - Cynata to supply Cymerus MSCs to facilitate the trial
- **This trial will be one of the largest MSC trials ever run, representing a breakthrough achievement for Cynata and showcasing its capacity to produce MSCs at scale**
- **Cynata retains full commercial rights to the use of Cymerus MSCs in osteoarthritis, representing a market opportunity forecast to be worth US\$11.6 billion globally by 2025**
- **Osteoarthritis becomes the third Phase 2 indication for Cynata, highlighting demand for the company's Cymerus MSCs in multiple indications**
- **Trial will take place in Sydney and Tasmania, and will be managed by a world-class clinical team led by Professor David Hunter of the University of Sydney**

Dr Kilian Kelly, Cynata's Vice President, Product Development, said:

"This clinical trial in patients with osteoarthritis is a very significant milestone for the Cymerus platform, as it will be the largest clinical trial to date with Cymerus MSCs. The trial will provide Cynata with an enormous amount of clinical data in a very large commercial opportunity. In fact, it will be among the largest clinical trials ever conducted with MSCs from any source. With an enormous unmet need for disease-modifying agents in osteoarthritis, we are excited to explore the potential role of Cymerus MSCs in improving the quality of these patients' lives."

Clinical Trial Overview

The aim of the Phase 2 clinical trial is to assess the effect of Cymerus MSCs compared to placebo on clinical outcomes and knee joint structure over a two-year period, in 448 patients with osteoarthritis of the knee.

Preclinical research has shown that MSCs can exert a number of important effects that may improve outcomes in patients with osteoarthritis, including release of cytokines and growth factors that reduce inflammation and promote tissue repair, new blood vessel formation, and regeneration of compromised cartilage.

The trial will be led by Professor David Hunter, Florance and Cope Chair of Rheumatology, Chair of the Institute of Bone and Joint Research and Professor of Medicine at the University of Sydney. Professor Hunter has been Chief Investigator of numerous clinical trials in osteoarthritis. He has more than 450 publications in high-impact journals, including the *New England Journal of Medicine*, *Journal of the American Medical Association* and *British Medical Journal*.



The research team also includes Professor Changhai Ding (University of Tasmania), Professor Stefan Lohmander (Lund University, Sweden), Dr Rachel O'Connell (University of Sydney) and Dr Xia Wang (University of Sydney), as well as numerous associate investigators.

The conduct of the clinical trial will be funded by an NHMRC project grant, in addition to in-kind contributions from participating institutions. Cynata will supply Cymerus MSCs for use in the trial, subject to ethics/regulatory approval, and execution of a satisfactory material transfer agreement with the University of Sydney. Cynata will not be required to contribute any cash to fund the project. The trial will take place in Sydney and Tasmania, with the first patients expected to be treated in the second half of 2019.

Professor Hunter commented, *"We are delighted that the NHMRC reviewers recognised the value of this trial, given that a very small proportion of clinical trial project grant applications are successful. If Cymerus MSCs are found to improve symptoms and knee joint-structure in this trial, it would have a substantial and immediate impact on osteoarthritis management worldwide, with major implications for reducing the osteoarthritis disease burden. We very much look forward to the commencement of the trial next year."*

About Osteoarthritis

Osteoarthritis is a chronic joint disease that causes pain and disability, and that affects around two million Australians and 30 million people in the USA. With no cure and an aging population, it is estimated that the incidence of osteoarthritis will increase by more than 50% in the next 15 years. Market research estimates that the resulting global osteoarthritis treatment market is expected to grow from a value of US\$8.0 billion in 2018 to US\$11.6 billion by 2025¹.

Ends

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About Cynata Therapeutics (ASX: CYP)

Cynata Therapeutics Limited (ASX: CYP) is an Australian clinical-stage stem cell and regenerative medicine company focused on the development of therapies based on Cymerus™, a proprietary therapeutic stem cell platform technology. Cymerus overcomes the challenges of other production methods by using induced pluripotent stem cells (iPSCs) and a precursor cell known as mesenchymoangioblast (MCA) to achieve economic manufacture of cell therapy products, including mesenchymal stem cells (MSCs), at commercial scale and without the limitation of multiple donors.

Cynata's lead product candidate CYP-001 met all clinical endpoints and demonstrated positive safety and efficacy data for the treatment of steroid-resistant acute graft-versus-host disease (GvHD) in a Phase 1 trial. Cynata plans to advance its Cymerus™ MSCs into Phase 2 trials for GvHD and critical limb ischemia. In addition, Cynata has demonstrated utility of its Cymerus MSC technology in preclinical models of asthma, critical limb ischemia, diabetic wounds, heart attack and cytokine release syndrome, a life-threatening condition stemming from cancer immunotherapy.

¹ Persistence Market Research 2018 research report: "Osteoarthritis Treatment Market: Global Industry Analysis (2012-2016) and Forecast (2017-2025)."