ASX ANNOUNCEMENT **31 July 2018**

Cymerus™ MSC treatment leads to improved recovery of cardiac function in preclinical heart attack study

Melbourne, Australia; 31 July 2018: Australian stem cell and regenerative medicine company, Cynata Therapeutics Limited (ASX: CYP), is pleased to announce positive efficacy data from a study of its Cymerus mesenchymal stem cells (MSCs) in a preclinical heart attack model.

Key Highlights

- Cymerus MSC treatment improved recovery of cardiac function post heart attack compared to either placebo or bone marrow-derived MSCs (BM-MSCs)
- Cymerus MSC treatment also reduced left ventricular end-systolic diameter (LVESD) compared to either placebo or BM-MSCs. LVESD reduction is associated with lower risk of further cardiac events
- This positive preclinical study result adds to Cynata's growing number of successful pre-clinical studies, intended to demonstrate the broad applicability of the Cymerus cell-manufacturing platform

Dr Kilian Kelly, Cynata's Vice President, Product Development, said: "*These very encouraging results add to a growing body of evidence showing that Cymerus MSCs may have an important role to play in the treatment of a wide range of diseases. There is still a huge unmet medical need associated with heart attacks, which cause over 8,000 deaths and more than 50,000 hospitalisations each year in Australia alone. We are optimistic about the potential benefits that Cymerus MSCs could bring to patients who experience these life-changing events.*"

Study Design

This study was conducted under the leadership of Associate Professor James Chong at the Westmead Institute for Medical Research, Sydney. In the study, a heart attack was induced in rats, which received treatment four days later, and were then assessed over a 28-day period. The rats (15 per group) were randomly assigned to one of three treatment groups (Cymerus MSCs; BM-MSCs; or placebo), and all assessments were performed in a blinded manner, which means that staff were not aware of which treatment the animals had received.

Study Outcomes

The primary endpoint of the study was fractional shortening at Day 28. Fractional shortening provides an estimate of the ability of the heart to contract effectively and is strongly indicative of overall cardiac function: an improvement in fractional shortening is indicative of recovery of the pumping function of the heart after a heart attack.

Treatment with Cynata's Cymerus MSCs resulted in an improvement in fractional shortening at Day 28, with the improvement being statistically significant compared to the placebo group ($p=0.013$) and the BM-MSC group ($p=0.003$).

A secondary endpoint of the study was a measure of LVESD. Higher LVESD values mean that the heart is not contracting well, while lower LVESD values are associated with improved cardiac function and reduced risk of further cardiac events. LVESD was lower in the Cymerus MSC group compared to the placebo group ($p=0.054$) and the BM-MSC group ($p<0.001$).

Cynata Therapeutics Limited
Level 3, 62 Lygon Street, Carlton, Victoria 3053, Australia
PO Box 7165, Hawthorn North, Victoria 3122
T: + 613 9824 5254 **F:** + 613 9822 7735 **E:** admin@cynata.com
ABN - 98 104 037 372

Another secondary endpoint was scar size as a proportion of the left ventricle size. There were no statistically significant differences between groups for this endpoint. Further assessments of scar are ongoing. These studies may help to shed further light on the mechanism of action behind the clear beneficial effects observed in this study.

Ends

CONTACTS: Dr Ross Macdonald, CEO, Cynata Therapeutics, +61 (0)412 119343, ross.macdonald@cynata.com
Daniel Paproth, Australia Media Contact, +61 (0)421 858 982, daniel.paproth@mcpartners.com.au
Laura Bagby, U.S. Media Contact, 312-448-8098, lbagby@6degreespr.com

About Cynata Therapeutics (ASX: CYP)

Cynata Therapeutics Limited (ASX: CYP) is an Australian clinical-stage stem cell and regenerative medicine company that is developing a therapeutic stem cell platform technology, Cymerus™, originating from the University of Wisconsin-Madison, a world leader in stem cell research. The proprietary Cymerus technology addresses a critical shortcoming in existing methods of production of mesenchymal stem cells (MSCs) for therapeutic use, which is the ability to achieve economic manufacture at commercial scale. Cymerus utilises induced pluripotent stem cells (iPSCs) to produce a particular type of MSC precursor, called a mesenchymoangioblast (MCA). Cymerus provides a source of MSCs that is independent of donor limitations and an "off-the-shelf" stem cell platform for therapeutic product use, with a pharmaceutical product business model and economies of scale. This has the potential to create a new standard in the emergent arena of stem cell therapeutics, and provides both a unique differentiator and an important competitive position.