

Cynata's Collaboration with University of New South Wales Yields Positive Preclinical Data for Coronary Artery Disease

Initial results support the use of Cynata's Cymerus™ platform to develop stem cell therapies for coronary artery disease

Melbourne, Australia; 4 March 2019: Cynata Therapeutics Limited (ASX: CYP), a clinical-stage biotechnology company specialising in cell therapeutics, is pleased to announce initial preclinical results from its collaboration with UNSW Sydney (the University of New South Wales) for the development of mesenchymal stem cell (MSC) therapies based on its Cymerus™ technology platform for the treatment of coronary artery disease (CAD).

CAD is the cause of most heart attacks and roughly one-third of all deaths in people over the age of 35 in developed countries.¹

Key Highlights

- Cymerus MSCs induce neovascularisation (growth of new blood vessels) in an *in vitro* assay
- Modification of the cell culture matrix (the material on which the cells are grown) was shown to "prime" Cymerus MSCs, and improve their ability to induce neovascularisation
- The priming effects were maintained after the cells were frozen and then thawed

This research has been led by Dr Kristopher Kilian, ARC Future Fellow at the UNSW School of Chemistry and School of Materials Science and Engineering. The effects on neovascularisation were assessed on the basis of *in vitro* tubulogenesis, which is a well-established assay that is considered to be predictive of *in vivo* neovascularisation.

Dr Kilian said, "These results are highly encouraging, in particular the finding that the priming effects were maintained after the cells were frozen and then thawed, which is extremely important with respect to clinical use of the primed cells. In practical terms, these findings mean that Cynata's Cymerus MSCs could potentially be used therapeutically to encourage healthy new blood vessel growth in the heart of patients in whom the existing blood supply has been compromised as a result of CAD."

Dr Kilian Kelly, Cynata's Vice President of Product Development, said, "We are very pleased with the initial output from our collaboration with UNSW, and we look forward to working with Dr Kilian and his team to determine next steps for the development of these customised MSCs for CAD."

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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 Sanchis-Gomar F, Perez-Quilis C, Leischik R, Lucia A. Epidemiology of coronary heart disease and acute coronary syndrome. *Ann Transl Med.* 2016;4(13):256