

Cynata Enters Development Partnership with RCSI

Partnership will develop potential therapeutic for sepsis, the leading cause of mortality in critically ill patients

Melbourne, Australia; 2 July 2018: Australian stem cell and regenerative medicine company, Cynata Therapeutics Limited (ASX: CYP) is pleased to announce that it has commenced a development partnership with RCSI (Royal College of Surgeons in Ireland) – one of the foremost health sciences research institutions in Europe, ranked in the top 2% of universities worldwide.

Key Highlights:

- **Partnership to focus on demonstrating the therapeutic potential of Cynata's Cymerus™ mesenchymal stem cells (MSCs) to treat sepsis; co-funded by Cynata and RCSI under the RCSI Strategic Industry Partnership Seed Fund.**
- **Sepsis is the most common cause of death in Intensive Care Units – implicated in 1 in 20 deaths in the population as a whole and up to 50% of all hospital deaths.¹**
- **Expands Cynata's portfolio of target indications and potential commercial opportunities for its Cymerus MSCs through a leveraged partnership.**

Details of the Partnership:

The initial focus of the partnership will be the *IMPACT (Improved Phagocytosis with Advanced Cell Therapy) for Sepsis* study, which will investigate the utility of Cymerus MSCs in preclinical models of sepsis.

The partnership is co-funded by Cynata and RCSI under the RCSI Strategic Industry Partnership Seed Fund. The RCSI Strategic Industry Partnership Seed fund provides an innovative and differentiated approach for industry to engage with RCSI researchers and form scalable relationship in areas of mutual interest.

The project will be led by Professor Gerard Curley, Chair of the Department of Anaesthesia and Critical Care at RCSI, and Consultant in Intensive Care Medicine at Beaumont Hospital, Dublin. Professor Curley has considerable expertise and a strong publication record in both sepsis and cellular therapies, and his research has been widely recognised globally. He has received numerous awards from organisations including the American Physiological Society, the American Thoracic Society, the Australia and New Zealand Intensive Care Society, and the Government of Ontario, Canada.

Professor Curley commented, "New therapies are urgently needed to address the huge unmet clinical need associated with sepsis. Mesenchymal stem cells (MSCs) are adult stem cells that can be obtained from bone marrow, fat or umbilical cord. MSCs direct the body's immune cells to engulf and kill bacteria during sepsis and reduce damaging inflammation. MSCs offer significant hope for the treatment of sepsis, and early research findings are promising.

"However, more work is needed before MSCs can be used routinely in critically ill patients. MSCs are a living therapeutic so there is variability in how MSCs behave once they are injected into the body. We need to understand why this variability arises and attempt to control it, while also ensuring that cells are injected into, and remain in, the right place so that they can work effectively. The scarcity of MSCs is another obstacle to clinical use because current methods of MSC extraction simply cannot obtain enough cells to



treat the many patients who suffer from sepsis. We believe that Cynata’s Cymerus technology has the potential to address these limitations,” Professor Curley added.

Sepsis

Sepsis is a life-threatening illness caused by the body’s response to an infection, which can lead to organ failure. It is a leading cause of death in both Ireland and Australia, and indeed throughout the developed world, and is becoming increasingly common.^{2,3}

Existing treatment options have low success rates, with almost one in five patients diagnosed with sepsis expected to die as a direct result of the condition.

An estimated US\$24 billion is spent annually caring for patients with sepsis in the United States of America alone, making it the single most expensive condition to treat in the US hospital system.⁴ There is therefore a very substantial need for new therapeutic approaches to this condition.

Dr Kilian Kelly, Cynata’s Vice President, Product Development, said, “We are honoured to collaborate with Professor Curley and his team and are delighted to participate in the RCSI Strategic Industry Partnership Seed Fund initiative. New and innovative treatments are needed to put an end to the often tragic consequences of sepsis, which can affect people suddenly and at any stage of life. The potential for our Cymerus MSCs is enormous, and this partnership has also added an additional indication to our growing portfolio of targeted diseases.”

Deputy Vice Chancellor at RCSI, Professor Janusz Jankowski, welcomed the announcement saying: “RCSI is delighted to announce this collaboration between Professor Curley and Cynata Therapeutics. The management of life threatening infection by novel methods, in order to avoid antibiotics resistance, is one of the key priorities facing the global community. Therefore, this partnership exemplifies how collaboration between expert groups in academia and industry can help improve health through the high quality, novel, impactful scientific research being carried at RCSI.”

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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 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.



About RCSI (Royal College of Surgeons in Ireland)

RCSI is an international not-for-profit health sciences institution, founded in 1784, with its headquarters in Dublin. It is focused on education and research to drive improvements in human health worldwide. It is ranked among the top 250 (top 2%) of universities worldwide in the Times Higher Education World University Rankings (2018) and its research is ranked first in Ireland for citations. It is a signatory of the Athena SWAN Charter. The RCSI Strategic Industry Partnership programme is an innovative and differentiated approach to support scalable collaboration between RCSI researchers and industry and develop new innovations in the medical device, diagnostic, therapeutic and healthcare delivery and education fields.

¹ Liu V, Escobar GJ, Greene JD, et al. Hospital deaths in patients with sepsis from two independent cohorts. JAMA. 2014; 312(1): 90-92.

² National Sepsis Report 2016. Health Services Executive, Dublin, Ireland. September 2017.

³ Kaukonen KM, Bailey M, Suzuki S, et al. Mortality related to severe sepsis and septic shock among critically ill patients in Australia and New Zealand, 2000-2012. JAMA. 2014; 311(13): 1308-16.

⁴ Torio CM and Moore BJ. National Inpatient Hospital Costs: The Most Expensive Conditions by Payer, 2013. Healthcare Cost and Utilization Project; Statistical Brief #204. Agency for Healthcare Research and Quality, Rockville, MD, USA. November 2015.