BioSpectrum
the business of Bio & Health Sciences
ASIA EDITION

Australia, UK focus on respiratory complications in recovered Covid-19 patients

17 December 2020 | News

Through the collaboration, CN Bio's Sydney-based distributor, AXT, will provide the University of Melbourne access to the Company's proprietary PhysioMimix™ Organ-on-Chip system

CN Bio, a leading cell culture company based in the UK, has announced a collaboration with the University of Melbourne in Australia, focusing on respiratory therapies for recovering COVID-19 patients.

Harnessing CN Bio's Organ-on-a-Chip technology, the aim of the research is to develop a model capable of recapitulating the fibrosis and tissue remodelling seen in chronic interstitial lung disease, often occurring following SARS-CoV-2 infection. Subsequently, the University will investigate anti-inflammatory, anti-fibrotic and anti-viral agents to treat patients.

Through the collaboration, CN Bio's Sydney-based distributor, AXT, will provide the University of Melbourne access to the Company's proprietary PhysioMimix™ Organ-on-Chip system, to create a more human-relevant COVID-infected lung culture than current in vitro standards that use monkey fibroblasts. Led by Professor Alastair Stewart, the research team will adopt the lung model to elicit physiologically comparable inflammation and cytokine responses following drug testing; to support development of novel therapies, aiming to prevent a second wave of late mortalities associated with the medium-term morbidity.

To further improve translatability of the COVID-19 infected lung culture, CN Bio's technology will enable researchers to create an organotypic air-liquid interface, which has more utility than the organoid approach, in which cilia within the structure make it difficult to study viral infection. Additionally, viable cell culture time is predicted to be prolonged (currently 1 week), allowing for an extended study of infection and pharmacology drug intervention.

"Selection for this project by the University of Melbourne, one of the world's top research institutions, is a privilege for our team." commented Dr Audrey Dubourg, Product Manager, CN Bio. "We look forward to working with Professor Alastair Stewart and his group, who will be supported by our Australian distributor, AXT, leading experts in high-tech scientific equipment."

Professor Alastair Stewart, Director, ARC Centre for Personalised Therapeutics Technologies, University of Melbourne, said:

“If we are to avert a second wave of late mortality caused by this pandemic, research into drugs that can treat interstitial lung disease in COVID-recovered patients is crucial. Harnessing CN Bio’s microphysiological technology, we hope to enhance our understanding of the molecular mechanisms and pharmacological effects of drugs capable of treating patients that suffer with the respiratory complications.”