HOW NCRIS INFRASTRUCTURE HELPED THE UNIVERSITY OF QUEENSLAND'S VACCINE PLATFORM – A BILLION-DOLLAR SUCCESS

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BIOLOGICS AND VACCINE

A landmark deal has placed Australian vaccine innovation on the world stage, with leading healthcare company Sanofi completing the acquisition of Vicebio.

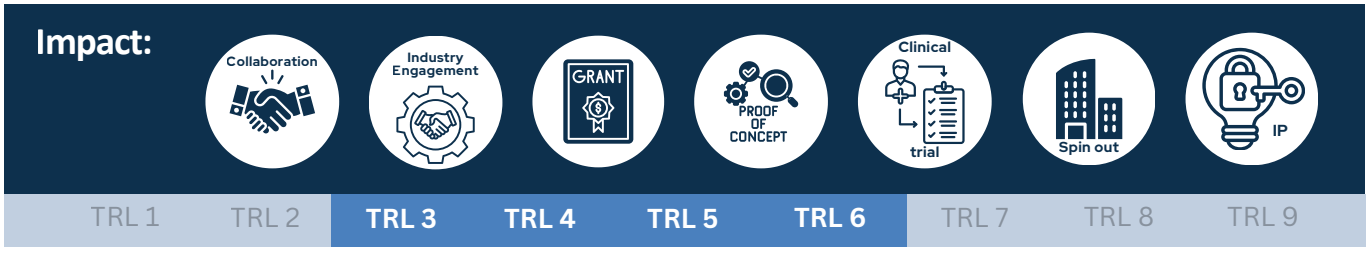
Vicebio was formed in 2019 to advance The University of Queensland (UQ)'s Molecular Clamp platform, a novel vaccine technology designed to stabilise viral proteins in their native shape. This approach helps the immune system recognise and respond to viruses more effectively, laying the groundwork for broad-spectrum vaccines against multiple respiratory pathogens.

The deal is the largest involving a company that is commercialising intellectual property from an Australian university. The acquisition agreement consists of a total upfront payment of US$1.15 billion, with potential milestone payments of up to US$450 million based on development and regulatory achievements.

Invented by Professor Keith Chappell, Professor Daniel Watterson and Emeritus Professor Paul Young, the Molecular Clamp platform allows researchers to stabilise viral proteins in a shape that better triggers the immune system. It first came to global attention during the COVID-19 pandemic through UQ's partnership with the Coalition for Epidemic Preparedness Innovations (CEPI).

Two national research infrastructure providers, Therapeutic Innovation Australia (TIA) and Microscopy Australia, are proud to have played a part in this remarkable journey.

UQ's advancement of the Molecular Clamp technology was supported by TIA's National Biologics Facility (NBF) and CSIRO Biomedical Manufacturing, and Microscopy Australia's Centre for Microscopy & Microanalysis (CMM). These facilities, which are funded by the National Collaborative Research Infrastructure Strategy (NCRIS), provide enabling expertise and infrastructure to deliver manufacturing, process development and analytical testing to support the translation of research discoveries towards clinical trials.

This expertise helped to successfully demonstrate proof of concept by manufacturing of a vaccine candidate by NBF and CSIRO against SARS-CoV-2 for two Phase I clinical trials. Cryo-electron microscopy provided by CMM ensured the quality of the vaccines.

This is a powerful example of how collaborative research infrastructure enables Australian science to go further, supporting academic excellence, industry engagement and commercial translation.