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Grant supports new COVID-19 nasal vaccine research

Research led by the Centenary institute and the University of Sydney – focused on the development of a new nasal COVID-19 vaccine – has received close to \$1m in grant funding from the NSW COVID-19 Vaccine Acceleration Research Grants Program.

The grant, worth \$995,867, will support the development of a nasally inhaled COVID-19 vaccine to induce immunity in the airways and block transmission of SARS-CoV-2 to help prevent disease.

Chief Investigator of the project, Professor Warwick Britton AO, Head of the Centenary Institute's Tuberculosis Research Program, said that there is an urgent need for new vaccine strategies that block COVID-19 transmission.

"Although approved vaccines substantially reduce severe disease and hospitalisation, there is little evidence they block viral transmission, especially for newly emerging variants," Professor Britton said.

"This is because current intramuscular vaccines do not stimulate production of virus-neutralising antibodies and T cells in the nasal cavity and airways – sites where infection commences in the body."

Professor Britton said that their new nasal vaccine, developed with Dr Anneliese Ashhurst (Medical Sciences) and Professor Richard Payne (Chemistry) at the University of Sydney, will be inhaled to generate immunity in the nasal passages, as well as the airways and lungs, to provide protection from viral infection.

A critical part of the research will be the development of a stable, dry powder form of the vaccine, with Dr Paul Young at Ab Initio Pharma, to facilitate nasal delivery. The effectiveness of the vaccine will be determined in pre-clinical models of SARS-CoV2 infection as a pathway to clinical trials in people.

"If successfully translated to the clinic, this vaccine strategy would be a transformative innovation in the fight against SARS-CoV-2, addressing needs not met by current vaccines," said Professor Britton.

"It offers an approach to reduce COVID-19 related morbidity in vulnerable populations and also to limit viral transmission amongst the wider community, thereby reducing disruption to our economy and daily life."

The [COVID-19 Vaccine Acceleration Research Grants](#) scheme from the Office of Health and Medical Research supports the research and development of next-generation COVID-19 vaccines in NSW.

[ENDS]

Images:

Professor Warwick Britton AO

<https://drive.google.com/file/d/1JQuwCHDc6cRIY-JI-t9yq8P4AS6jZPoC/>

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About the Centenary Institute

The Centenary Institute is a world-leading independent medical research institute, closely affiliated to the University of Sydney and the Royal Prince Alfred Hospital. Our research focuses on three key areas: cancer, inflammation and cardiovascular disease. Our strength lies in uncovering disease mechanisms and applying this knowledge to improve diagnostics and treatments for patients.

For more information about the Centenary Institute, visit centenary.org.au

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