

Australia commences recruitment for Ph 1 trial of two indigenous COVID-19 vaccines

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Melbourne researchers are calling on healthy people aged 18-70 living in Victoria to roll up their sleeves for a Phase 1 clinical trial of two Melbourne-made COVID-19 vaccines.

The two vaccine candidates, created by researchers at the Peter Doherty Institute for Infection and Immunity (Doherty Institute) and Monash Institute of Pharmaceutical Sciences (MIPS), are distinct from existing vaccines that are in use around the globe because they focus the immune response on the tip of the SARS-CoV-2 spike protein, called the receptor binding domain (RBD).

The RBD enables the virus to enter and infect cells in the body and elicits over 90 per cent of neutralising antibodies (antibodies that can block the virus) following SARS-CoV-2 infection.

The two candidates are: RBD protein vaccine (it uses part of the virus protein, rather than genetic material or another virus, to elicit an immune response); and RBD mRNA vaccine (represents the virus genetic sequence that codes for the tip of the spike, which will lead to production of the RBD protein).

In addition, they are 'proof-of-principle' variant vaccines that present the Beta variant to the immune system, which was of the greatest concern when these vaccines were designed. Furthermore, the Beta variant has two of the same key RBD mutations as the Omicron variants (BA.1 and BA.2), so they may also improve immunity to Omicron.

University of Melbourne Professor Terry Nolan, Head of the Vaccine and Immunisation Research Group at the Doherty Institute, said, "What's so unique about this gold standard, randomised, double-blind, placebo-controlled trial is that it will be the first time a side-by-side comparison will be undertaken of two new COVID-19 vaccine platforms."

