

Successful manufacture of first Australian COVID-19 mRNA vaccine candidate

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The first Australian COVID-19 mRNA vaccine candidate, developed by the Monash Institute of Pharmaceutical Sciences (MIPS), has moved a step closer with production reaching a significant development

milestone.

Melbourne-based company IDT has successfully manufactured the vaccine candidate, in preparation for [Phase 1 clinical trials](#) to be conducted by the Doherty Institute early next year.

Professor Colin Pouton, who led the MIPS team that developed the vaccine, said they had worked with determination and close collaboration with IDT to develop the mRNA COVID-19 [vaccine candidate](#).

"Translating our laboratory work into a product produced in a GMP facility has been a rewarding experience for the teams at MIPS and IDT," Professor Pouton said.

"Reaching this milestone demonstrates that the skills and experience to make mRNA products are available in Victoria."

Professor Pouton said this vaccine had the ability to rapidly adjust its composition in response to emerging virus mutations.

This is particularly important as new strains continue to emerge, including the latest variant discovered in South Africa.

"The new variant Omicron has an unprecedented number of mutations in its receptor binding domain. How concerned we should be about this variant remains to be seen, but our RBD mRNA vaccine program is perfectly suited to producing a specific vaccine to protect against this new variant," Professor Pouton said.

The milestone was announced by Victorian Minister for Innovation, Medical Research, and the Digital Economy Jaala Pulford, at Monash's Parkville campus.

MIPS Director, Professor Chris Porter, said they were delighted the work of the teams at MIPS and IDT had resulted in the first successful manufacture of an mRNA product for clinical trial in Australia.

"Monash is highly committed to the exploration of mRNA therapeutics and this provides a first example of what we hope will be a template for Australian industry and academia to work together to progress this enormously promising new field of medicine."

In June, the Victorian Government granted Monash University \$5 million through mRNA Victoria to manufacture the vaccine.

The Federal Government also provided just over \$1.5 million through its Medical Research Future Fund (MRFF) in 2020 to Monash and the Doherty Institute to begin the clinical trial process.

Monash University President and Vice-Chancellor Professor Margaret Gardner AC said progress on the vaccine demonstrated the University's world-class research and commercialisation capability.

"Monash is at the cutting edge of mRNA/RNA therapeutics development, and with the emergence of the Omicron variant we have been reminded how crucial it is for Australia to develop [vaccine](#) and manufacturing sovereign capability," Professor Gardner said.

"Working collaboratively with the Australian and Victorian governments, other [research institutions](#) and our industry partners, Monash is committed to ensuring Australia is well placed for long-term resilience against COVID-19.

"Importantly, Monash is also building an RNA ecosystem that will lead to the rapid development of life-saving vaccines and therapeutic treatments for other infectious diseases and cancers."

The Phase 1 clinical trials are expected to take six months.

Provided by Monash University

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