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Australia explores use of vaccinia virus-based vaccines to fight monkeypox

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Vaccine expected to induce strong monkeypox virus immune response, research shows

New research suggests recommended vaccinia virus (VACV)-based vaccines will mount a robust immune response against the monkeypox virus observed in the current outbreak (MPXV-2022).

Since the new virus was first observed in early May 2022, over 52,000 cases have been confirmed in more than 90 countries, including Australia, where 124 cases have been diagnosed (confirmed and probable).

The study, co-led by University of Melbourne Professor Matthew McKay, ARC Future Fellow and Honorary Professor at the Peter Doherty Institute for Infection and Immunity, and Professor Ahmed Abdul Quadeer, Research Assistant Professor at the Hong Kong University of Science and Technology, was published in the international journal *Viruses*.

Weeks after the new strain emerged, the team undertook genomic research to find out if the genetic mutations observed in MPXV-2022 may affect vaccine-induced immune responses against monkeypox.

“Based on our analysis, we anticipate that the immune responses generated by VACV-based vaccines would continue to do a good job of recognising and responding to MPXV-2022, as was the case for monkeypox viruses in the past. Our data lends further support to the use of vaccines being recommended globally for combating MPXV-2022.

While bringing together sequencing and immunological data provides evidence to anticipate a strong immune response, clinical studies are required to determine the exact efficacy of these vaccines against MPXV-2022”, Professor Quadeer said.