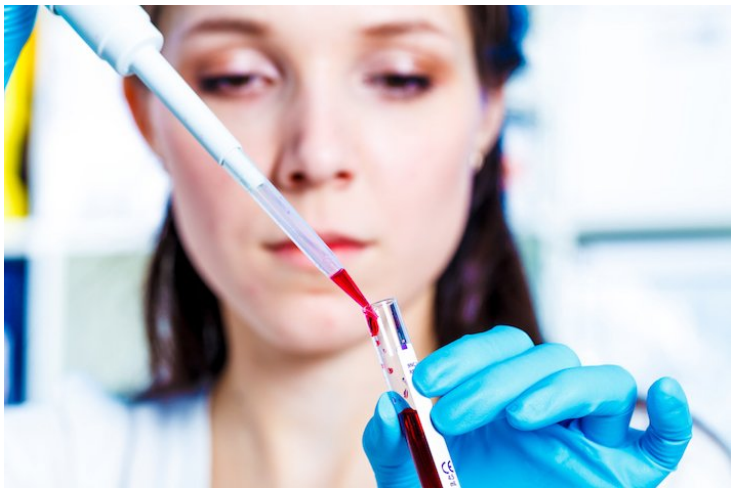
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# Australia develops first-of-its-kind tool for detection of monkey pox virus

September 27, 2023 | News

**This research is the result of a collaboration between the Doherty Institute, WEHI, Melbourne Sexual Health Centre and Monash University**



In a collaborative study published in The Lancet Microbe, the team of scientists, led by Australia's Peter Doherty Institute for Infection and Immunity (Doherty Institute) and WEHI (Walter and Eliza Hall Institute of Medical Research), revealed MPXV-CRISPR – a powerful diagnostic tool capable of detecting MPXV in clinical samples with acute precision and at a faster rate than any other method, thanks to the power of CRISPR technology. It is the first CRISPR-based diagnostic method in Australia specifically designed to target genetic sequences found only in MPXV (monkey pox virus).

While the CRISPR technology is most known for its genome editing capability, new applications have emerged, including leveraging it for the design of powerful and highly sensitive diagnostic tools.

MPXV-CRISPR has to be ‘programmed’ to recognise the virus. The researchers have used a database of 523 MPXV genomes to carefully engineer ‘guides’ to bind to the specific part they were looking for on the viral DNA.

According to the researchers, the speed at which this new technology can provide a diagnosis is one of the groundbreaking features of MPXV-CRISPR.

Currently, mpox diagnostics rely largely on centralised laboratory settings, where test results might not be available for up to several days after sample collection, depending on geographical and logistical considerations. In parallel, MPXV-CRISPR can detect the virus in just 45 minutes.

In line with the WHO standards where diagnostic tests should be accurate, accessible and affordable, the team is working on adapting MPXV-CRISPR into a portable device, that could, one day, be deployed at points of care around the country for rapid, on-site detection of monkeypox virus.