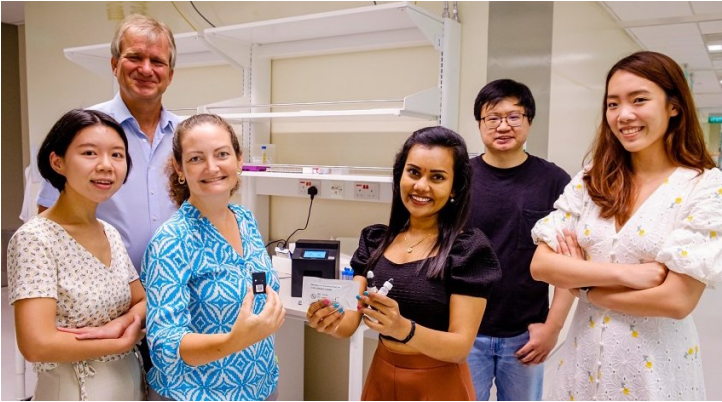


Singapore develops quick test to detect immunity against COVID-19 & variants

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A drop of blood from a finger prick can now determine if a booster dose is required



A team of scientists from the Singapore-MIT Alliance for Research and Technology (SMART), MIT's research enterprise in Singapore, and Nanyang Technological University, Singapore (NTU Singapore) has developed a quick test kit that can tell if a person has immunity against COVID-19 and its variants, based on the antibodies detected in a blood sample.

Different from ART test kits – which look for the presence of viral proteins produced during a COVID-19 infection to determine if a person is infected – this rapid point-of-care test kit is a serology test that measures antibodies made by the patient.

It requires a drop of blood and takes just 10 minutes to show results, as compared to the 24 to 72 hours required for conventional laboratory testing. The test kit detects the levels of neutralising antibodies against SARS-COV-2, the virus causing COVID-19, and its variants such as Delta and Omicron, and can be easily adapted for new variants of concern and other diseases in the future.

Using a paper-based assay that is coated with chemicals that bind to antibodies in the blood sample, the test kit is low-cost, fast and has up to 93 per cent accuracy. It paves the way for personalised vaccination strategies, where people are only given vaccinations and booster shots when necessary, depending on their variance in antibody levels and immune response.

Further development of the test kit is underway to meet the necessary regulatory approvals and manufacturing standards for public use.