



SINGAPORE, July 27 -- Researchers at Nanyang Technological University Singapore's (NTU Singapore) Lee Kong Chian School of Medicine (LKCMedicine) have demonstrated a speedier diagnostic test to detect COVID-19 infection.

The test produces results in just 36 minutes and works for dengue and other viruses as well.

“When used directly on a crude blood sample with dengue virus, the test yielded results in 28 minutes,” leader of the research team, Associate Professor Eric Yap, said in a statement issued here today.

“As Singapore battles the dual outbreak of dengue and COVID-19, both with similar early symptoms, our test could help in differentiating between the two infectious diseases,” said Yap, who also heads the Microbial Genomics Laboratory.

Their new approach could enable the wider adoption of COVID-19 testing for diagnosis in academic or research laboratories, and allow for screening and research especially in countries and regions with limited laboratory capabilities.

The test, which can be done with portable equipment, could also be deployed in the community as a screening tool.

Currently, the most sensitive method for testing for COVID-19 is through a laboratory technique called polymerase chain reaction (PCR), in which a machine amplifies viral genetic material by copying it over and over again so that any trace of the SARS-CoV-2 virus can be detected.

A big bottleneck in sample testing is RNA purification – separating RNA from other components in the patient sample – a laborious process that requires chemicals that are now in short supply worldwide.

Its steps have to be performed by highly-trained technical staff and can take a few hours.

Currently, automated equipment for sample preparation costs hundreds of thousands of dollars and requires specialised laboratory facilities.

The method developed by NTU Singapore's LKCMedicine combines many of these steps and allows direct testing on the crude patient sample, cutting down the turnaround time from sample-to-result, and removing the need for RNA purification chemicals.

Details of the new approach were published in the scientific journal *Genes* in June.

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