

NTU speeds up gold-standard COVID-19 diagnostic test

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Clinician-scientists at Nanyang Technological University, Singapore's (NTU Singapore) Lee Kong Chian School of Medicine (LKCMedicine) have demonstrated a way to improve the speed, handling time and cost of COVID-19 laboratory tests.

The improved testing method yields results in 36 minutes – a quarter of the time required by existing gold-standard tests.

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.

Aside from testing for COVID-19, the same method developed by the NTU LKCMedicine team can also be used to detect other viruses and bacteria, including the dengue virus, which is set to plague Singapore as the country braces itself for one of the worst dengue outbreaks amid the coronavirus pandemic.

Leader of the research team, Associate Professor Eric Yap, who also heads the Microbial Genomics Laboratory, said: "We previously demonstrated that this method works for dengue virus as well. When used directly on a crude blood sample with dengue virus, the test yielded results in 28 minutes. 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."

The team is now looking to use this method for COVID-19 testing at the NTU Clinical Diagnostic Laboratory at LKCMedicine that Assoc Prof Yap heads.