

SCTIMST develops rapid detection kit for COVID-19

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Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Trivandrum, an Institute of National Importance, of the Department of Science and Technology (DST), has developed a diagnostic test kit that can confirm COVID19 in 2 hours at low cost.

The confirmatory diagnostic test, which detects the N Gene of SARS-COV2 using reverse transcriptase loop-mediated amplification of viral nucleic acid (RT-LAMP), will be one of the world's first few if not the first of its kinds in the world.

The test kit, funded by the DST called Chitra GeneLAMP-N, is highly specific for SARS-CoV-2 N-gene and can detect two regions of the gene, which will ensure that the test does not fail even if one region of the viral gene undergoes mutation during its current spread.

The tests performed at NIV Alappuzha (authorized by ICMR) show that Chitra GeneLAMP- N has 100% accuracy and match with test results using RT-PCR. This has been intimated to ICMR, the authority to approve it, for COVID-19 testing in India, following which License needs to be obtained from CDSCO for manufacture.

Current PCR kits in India enable detection of E gene for screening and RdRp gene for confirmation. Chitra GeneLAMP-N gene testing will allow confirmation in one test without the need for a screening test and at much lower costs.

The detection time is 10 minutes, and the sample to result time (from RNA extraction in swab to RT-LAMP detection time) will be less than 2 hours. A total of 30 samples can be tested in a single batch in a single machine allowing a large number of samples to be tested each day.