

A 20-minute assay for COVID-19 diagnosis

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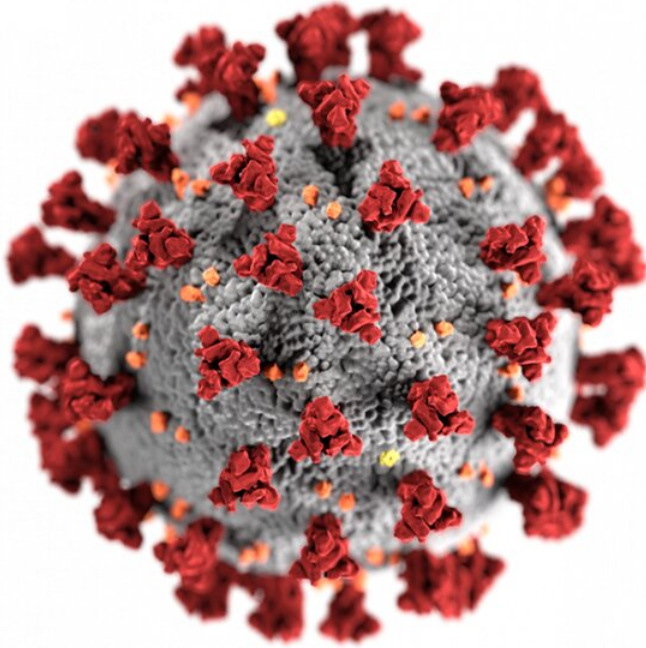


Image of the ultrastructural morphology exhibited by the 2019 Novel Coronavirus (2019-nCoV). Credit: CDC

Researchers have developed a new test that can diagnose COVID-19 in just 20 minutes.

The findings, published in the *Journal of Medical Microbiology*, show the rapid molecular [test](#) called N1-STOP-LAMP, is 100% accurate in diagnosing samples containing SARS-CoV-2 at high loads.

The test is highly accurate and easy to use, making it a [prime candidate](#) for use in settings with limited testing capabilities. The method involves using a small portable machine, which can reliably detect SARS-CoV-2 from just one nasal swab. "In the race to control the COVID-19 pandemic, access to rapid, precision diagnostics is key. We have developed an alternative COVID-19 molecular test that can be readily deployed in settings where access to standard laboratory testing is limited or where ultra-rapid result turnaround times are needed" said University of

Melbourne Professor Tim Stinear, Laboratory Head at the Doherty Institute.

This [new test](#) uses only one tube and involves only a single step, making it more efficient and lower cost than many of the current tests for SARS-CoV-2. The N1-STOP-LAMP method was found to be 100% accurate and correctly identified 87% of tests as positive when used to assess 157 confirmed-positive samples. The results were fast, with an average time-to-positive of 14 minutes for 93 of those clinical samples.

"We see this kind of technology having benefit in settings liked aged care facilities, or overseas laboratories with [limited resources](#) and equipment," Professor Stinear said. "The test requires a small shoebox-sized machine, as well as reagents, but everything is portable."

"STOP-LAMP is what's referred to as a 'near care' test, it is not intended to replace the current gold standard PCR testing. It's a robust diagnostic test for the specific and rapid detection of COVID-19. But it's important to note however, it trades some detection sensitivity for speed and ease-of-use."

More information: Jean Y. H. Lee et al.

Validation of a single-step, single-tube reverse transcription loop-mediated isothermal amplification assay for rapid detection of SARS-CoV-2 RNA, *Journal of Medical Microbiology* (2020). [DOI: 10.1099/jmm.0.001238](#)

Provided by Microbiology Society

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