

CT 020 [Singapore](#) [World](#) [Big Read](#) [Opinion](#) [Gen Y Speaks](#) [Features](#) [Visuals](#) [Brand Spotlight](#)

| [8 DAYS](#)



New S'pore-developed Covid-19 test kit that is faster, reduces need for highly skilled manpower

By [NG JUN SEN](#)



Mindef

With this new Covid-19 test kit (pictured), results are available within 60 to 90 minutes, making it more efficient and reducing the exposure of laboratory technicians to the virus.

Published 18 JULY, 2020 UPDATED 19 JULY, 2020

1768 Shares



- Developed by DSO National Laboratories and A*Star
- Results are available in between 60 and 90 minutes compared with the present three hours
- Fewer steps for processing means test can be handled by entry-level technicians

SINGAPORE — A simplified Covid-19 test kit developed jointly by two national research organisations will cut down processing time to half the time or less, its creators said on Saturday (July 18). The test kit could soon see wider adoption in Singapore’s overall coronavirus testing effort, as well.

Jointly developed by the DSO National Laboratories and the Agency for Science, Technology and Research (A*Star) in March, the first version of the kit — Resolute 1.0 — has been approved by the health authorities and distributed to some hospitals and testing laboratories here.

ADVERTISEMENT

The Resolute kit uses the reverse transcription polymerase chain reaction (RT-PCR) method to test for the presence of the Sars-Cov-2 coronavirus in a nasal sample taken from a patient, similar to the way in which other test kits used in Singapore work.

What makes Resolute more efficient than standard test kits is that it cuts away the need for these samples to be processed by a laboratory in order to extract important genetic material for further testing — a procedure that can take nearly three hours, its researchers said.

ADVERTISEMENT

As such, results are available within 60 to 90 minutes and this makes the test not only more efficient but also reduces the exposure of laboratory technicians to the virus.

This is the first such test kit in Singapore that eliminates this step, DSO and A*Star said.

Read also: [Covid-19: Rise in infections at dorms due to ‘final stretch of clearance work’, Lawrence Wong says](#)

Ms Ng Sock Hoon, laboratory director from the DSO’s Defence Medical and Environmental Research Institute, said: “(By) eliminating the sample processing step, that reduces the

number of steps that the operator needs to handle, and potentially the errors that can be introduced during this step.”

Several laboratory errors had led to false positives in Singapore’s battle against Covid-19, including the wrong diagnosis of a Jurong West Secondary student recently due to mislabelling.

In May, more than 30 false positives were detected from a single laboratory due to improper calibration of testing equipment.

Read also: [Secondary school student mistakenly diagnosed with Covid-19 due to human error at lab: MOH](#)

Because sample processing steps are simplified, Resolute can be used anywhere by entry-level technicians with a basic laboratory set-up and also used with most testing machinery, its researchers said.

Dr Weng Ruifen, chief of product development and project management at DxD Hub, a national platform managed by A*Star, said an added benefit is that Resolute does not need sample processing materials that are now in limited supply globally.

“With Resolute, we are able to diversify the test kits available, and we have diversification of raw materials that make us more resilient in the fight against Covid-19. We are then less dependent on one or two suppliers for the test effort,” Dr Weng said at a virtual press briefing.

Read also: [Covid-19: False positives caused by lab’s improper calibration, missed steps during testing](#)

While she did not reveal the expected cost of the test kit, Dr Weng said that compared with standard kits, the use of Resolute will see a reduction in manpower, material and power costs.

She added that the researchers are working with a commercial medical technology partner to scale up the production of the Resolute kits, and with healthcare providers both in Singapore and the rest of the world on the deployment of this product.

A second version of the kit — Resolute 2.0 — is also on the way, which has improved usability and boasts better performance than the first iteration, the researchers said.

Read also: [Explainer: False positives in Covid-19 tests and the risk of errors as Singapore moves towards mass testing](#)

Singapore is aiming to be able to conduct 40,000 tests a day in the coming months and has set up several regional screening centres around the island to achieve this goal.

The production and distribution numbers for the test kits were not revealed due to a confidentiality agreement.

Whether these kits are deployed in general practitioner clinics or other settings will also depend on arrangements being worked out with the health authorities, the researchers said.

Mr Frederick Chew, A*Star's chief executive officer, said: "During this critical period, Resolute is a vital addition to Singapore's testing capacity. Diagnostics testing has been a key pillar of Singapore's Covid-19 response to date."

Topics

[Covid-19](#)[coronavirus](#)[DSO](#)[A*Star](#)[Covid-19 test kit](#)

ADVERTISEMENT

Subscribe to our email newsletter to receive updates on the latest news.

SUBSCRIBE

By clicking subscribe, I agree for my personal data to be used to send me TodayOnline newsletters, promotional offers and for research and analysis.

Read Next

Ethiopian farmers slaughter thousands of chicks as COVID hits demand

20 JULY

MOM, MOH apologise for 'administrative error' which led to 3-week delay in informing worker that he had Covid-19

19 JULY

Hong Kong third wave: At least 100 new confirmed, preliminary Covid-19 infections as experts warn curfew could be necessary

20 JULY

Promoted Stories

Recommended by

|