



# Highly accurate point-of-care testing for COVID-19 supports improved access to rapid results and reduced risk of community transmission.

In Australia, the first laboratory confirmed case of Coronavirus disease 2019 (COVID-19) was in Melbourne on 25 January 2020.<sup>1</sup> Since then, nearly 29,000 cases have been confirmed from almost 14.5 million tests.<sup>2</sup>

Australia continues to follow a suppression strategy in response to COVID-19 with a goal to have no community transmission of SARS-CoV-2 (the virus responsible for COVID-19).<sup>3</sup>

To date, diagnostic testing for SARS-CoV-2 has relied on highly sensitive RT-PCR (Reverse Transcription Polymerase Chain Reaction) assays performed in clinical laboratories. However, RT-PCR is relatively expensive and, depending on the setting, results may take 24-48 hours to return. Importantly, such delays in testing and contact tracing may lead to further transmission of disease.<sup>4</sup>

As the pandemic evolves, new diagnostic testing technologies for SARS-CoV-2 are rapidly emerging in the domestic and international markets. This offers Australia the opportunity to investigate testing strategies that may be complementary to, although not a replacement for, gold standard laboratory-based methods.<sup>3</sup> Recently, rapid antigen tests have been proposed as a means of increasing population-level surveillance testing and enabling testing at, or near, the point-of-care. As societies begin to interact and international travel resumes, the requirement for rapid, scalable population-level testing may not be fully met by laboratory-based RT-PCR testing.<sup>4</sup>

Rapid antigen tests for COVID-19 are inexpensive, require no sophisticated equipment, can be performed by healthcare professionals with minimal training and results are available within 10 to 20 minutes.<sup>5</sup> Antigen tests directly detect SARS-CoV-2 virus, will be positive within a few days after infection, and will become negative as the patient clears the infection and recovers. Antigen tests are useful for detection of active

infection<sup>6</sup> and may be used to reliably detect SARS-CoV-2 in patients shedding high levels of virus, and who have the highest risk of transmission.<sup>1</sup>

A recent study from The Doherty Institute and the University of Melbourne, showed 100% sensitivity of the rapid antigen test in patients within seven days of symptom onset. The same study found the test had 99.96% specificity meaning it can correctly identify people who don't have COVID-19. Given the high specificity, antigen-based tests may be most useful in rapidly triaging public health and hospital resources while expediting confirmatory RT-PCR testing.<sup>4</sup> In addition, the technology may prove useful as a screening test for individuals in high risk settings where there is a high risk of exposure/transmission of SARS-CoV-2.<sup>3</sup>

Rapid antigen tests for COVID-19 will play an important role in getting Australians safely back to work and the economy running smoothly again.<sup>7</sup>

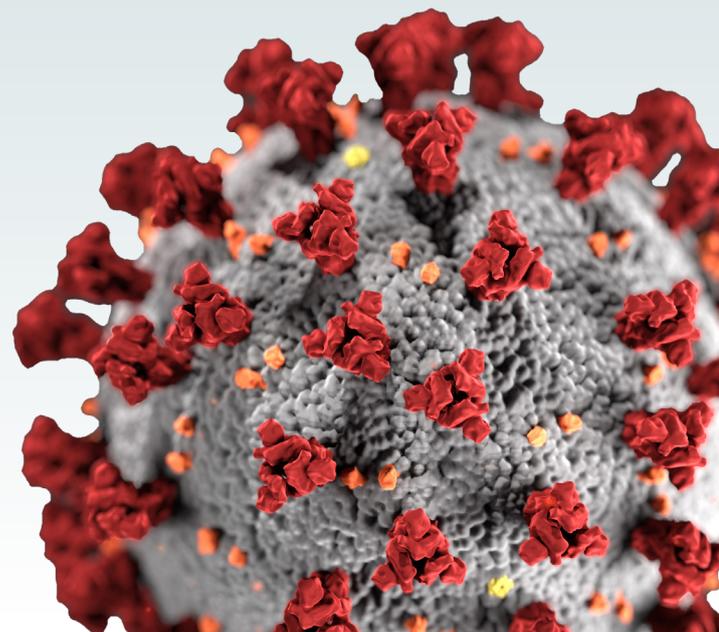


Photo credit: Alissa Eckert, MSMI; Dan Higgins, MAMS

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3. Coronavirus (COVID-19) – Testing Framework for COVID-19 in Australia. CDNA, PHLN. Feb 2021

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5. Open Letter – It is now time to add rapid antigen testing to our COVID-19 quarantine services. Pathology Technology Australia, Feb 2021.

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7. Pathology Technology Australia, Position Statement: COVID-19 Antigen and Point of Care Testing. Oct 2020