

# The value of COVID-19 testing

Combined testing to detect the virus and antibodies that may protect against it is essential to safely return employees to work.



## Highly accurate tests are critical

With everything that is at stake, test accuracy is critical to minimize risks for employees and communities. There are numerous tests to detect the virus or antibodies to the virus; only a few are highly accurate. A good antibody test is one that has specificity between 99.5% and 100%.<sup>1</sup>




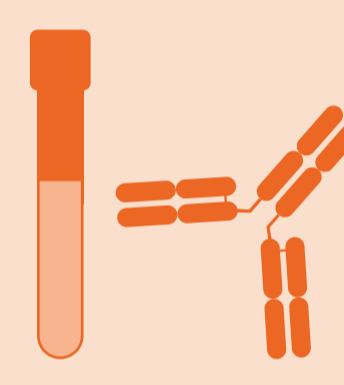








## Highly accurate tests minimize individual risk and inform action

- Test to determine prior exposure to the virus, indicating some likely level of immunity. Some tests detect antibodies that neutralize the virus; growing research shows that this may indicate immunity<sup>2,3</sup>**
- Test to assess if infection is present and may be active. If so, it is necessary to seek medical guidance and self-isolate**
- Test to determine if infection is resolved and neutralizing antibodies are present. This could aid workforce to return and stay safe in the workplace where social distancing is a challenge**
- Assess risk, especially for those serving high-risk populations (e.g., healthcare and elder care workers or first responders). Antibodies would indicate less infection risk for those tested and for others**
- Test people following an outbreak (e.g., food processing industry and communal living where prevalence may be higher)**

## Highly accurate tests limit COVID-19 spread and contain outbreaks

- Identify available population to donate plasma for patients with severe COVID-19 infections**
- Establish disease prevalence and extent of asymptomatic spread in a community and aid in surveillance (e.g., city, state, country)**
- Establish COVID-19-related death rate**
- Determine if people who were in contact with infected individuals are also infected (contact tracing)**
- Determine the effectiveness of future vaccines**
- Combine detection and antibody tests to aid in clinical assessment (e.g., emergency room, pre-op, late presenters)**

## What tests should you be given and how should you interpret the results?

 <b>Accurate virus detection test</b>		 <b>Accurate antibody detection test</b>
Detection of virus to show present and potentially active infection	 <b>Current use</b>	Detection of antibodies, which indicate recent or prior exposure to the virus and some level of immunity <sup>2,3</sup>
Swab, sample mucous from nose or throat	 <b>Type of test</b>	Blood draw, using a test tube
Detects genetic information that indicates the virus is present and may be active	 <b>How it works</b>	Detects existence of antibodies, which may indicate some level of immunity <sup>1,2,3,4</sup>
<ul style="list-style-type: none"> <li>If you have COVID-19 symptoms or may have been exposed to the virus</li> <li>If you are asymptomatic and want to return to the workplace—to check that you are likely not infected and spreading the virus</li> </ul>	 <b>When it should be taken</b>	<ul style="list-style-type: none"> <li>If you think you had COVID-19 more than 2 weeks ago and want to know if you had the virus</li> <li>In conjunction with a virus test, if you are asymptomatic, to determine if it is likely safe for you to travel or return to the workplace</li> <li>Your doctor may order an antibody test as a complement to the virus test to aid in your clinical assessment</li> </ul>
2 Hours to 5 Days*	 <b>Average speed</b> For the patient to receive results from a highly accurate test	30 Minutes to 5 Days*
<ul style="list-style-type: none"> <li>Highly accurate tests should maximize sensitivity. Some have 100% sensitivity</li> <li>High sensitivity is important because it better detects who has the virus</li> </ul>	 <b>Accuracy</b> A highly accurate test should reduce false results	<ul style="list-style-type: none"> <li>Highly accurate tests have over 99.5% specificity and over 90% sensitivity. Some have demonstrated 99.8% specificity and 100% sensitivity<sup>1</sup></li> <li>Sensitivity defines the test's ability to identify those with antibodies to SARS-CoV-2, and specificity defines the ability to identify those without antibodies to SARS-CoV-2</li> </ul>
<ul style="list-style-type: none"> <li>You most likely do have a current infection and may give it to others</li> <li>Follow guidance for additional steps<sup>4</sup></li> <li>Actions:                             <ul style="list-style-type: none"> <li>+ Quarantine to stop transmission</li> <li>+ To end quarantine, demonstrate 2 consecutive negative virus detection tests and take an antibody test to see if you have antibodies to the virus</li> </ul> </li> </ul>	 <b>Results and actions</b> If you test positive	<ul style="list-style-type: none"> <li>You likely had COVID-19 and may have some level of immunity to future re-infection</li> <li>Actions:                             <ul style="list-style-type: none"> <li>+ Take a virus detection test. If negative, you may return to the workplace. Self-protect and test again regularly to ensure antibodies are still present</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>You most likely do NOT currently have COVID-19</li> <li>You could still get COVID-19</li> <li>Actions:                             <ul style="list-style-type: none"> <li>+ Take steps to protect yourself and others</li> <li>+ Take an antibody test to see if you may have been infected but were asymptomatic</li> </ul> </li> </ul>	 <b>Results and actions</b> If you test negative	<ul style="list-style-type: none"> <li>You likely never had COVID-19</li> <li>You could still get COVID-19</li> <li>Actions:                             <ul style="list-style-type: none"> <li>+ Take a virus test. If negative, you may return to the workplace. Self-protect and test again frequently</li> </ul> </li> </ul>

## Let's get back to work safely

With the right tests at the right time for the right person, we can make informed decisions and move ahead with more confidence.

1. <https://www.cdc.gov/coronavirus/2019-ncov/lab/resources/antibody-tests-guidelines.html>  
 2. Bao L, Deng W, Gao H, et al. Reinfection could not occur in SARS-CoV-2 infected rhesus macaques. Posted 2020 May 1.  
 3. Lipsitch M. Who is immune to the coronavirus? New York Times. 2020 Apr 13.  
 4. <https://www.whitehouse.gov/wp-content/uploads/2020/05/Testing-Guidance.pdf>

\*Depending on healthcare provider