



## COVID-19 IgG (SARS-CoV-2 IgG) Antibody Test: Facts

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The SARS-CoV-2 IgG Antibody (COVID-19 IgG) test is intended for the qualitative detection of IgG antibodies to SARS-CoV-2 in human blood. The SARS-CoV-2 IgG test is intended for use as an aid in identifying individuals with an adaptive immune response to SARS-CoV-2, indicating prior infection. Antibodies are proteins produced by the immune system in response to an infection and are specific to that particular infection. They are found in the blood.

SARS-CoV-2 IgG Test may help identify if you were exposed to the virus that causes COVID-19 and, if so, whether or not your body has developed antibodies. Although having antibodies usually gives immunity from further infection, there is a lack of evidence on whether having antibodies means you are protected against reinfection with COVID-19 in future.

This antibody develops in most patients *at around two weeks after infection* and remains in the blood after you have recovered although we do not presently know how long it may persist. Results from this test also will not provide information on whether you can spread the virus to others and is not used as a basis for diagnosis.

### Indications

Anyone interested in knowing COVID-19 status can get the testing done. The test can help give you some reassurance that you may already have had COVID-19. The results of this test may help us understand the spread of COVID-19 within the community. Another benefit of SARS-CoV-2 IgG antibody testing is that people who have recovered from COVID-19 may be eligible to *donate plasma* (a component of blood). This plasma could be used to treat others with severe disease and boost the ability to fight the COVID-19 virus.

### Test Interpretation:

The test results from different laboratories may vary depending on several factors such as the accuracy of the test itself and also how long it may take for your body to develop antibodies after you had the coronavirus infection, if you were in fact infected. For this and other reasons, you should always review your test results with your doctor.

**Reactive:** A Reactive test result indicates that IgG antibodies to SARS-CoV-2 were detected. Rarely, a *false positive result* can occur due to a prior infection with

other human Coronaviruses. Consider other information, including clinical history and local disease prevalence, in assessing the need for an alternative serology test to confirm an immune response. Positive results may be due to past or present infection with non-SARS-CoV-2 coronavirus strains. You may test positive for antibodies even if you have never had symptoms of COVID-19. This can happen if you had an infection without symptoms, which is called an asymptomatic infection.

**Non-Reactive:** A Non-Reactive test result means that the IgG antibodies to the virus that causes COVID-19 were not found in your sample. However, it is possible for this test to give a Non-Reactive result that is incorrect (*false Non-Reactive*) in some people with COVID-19 infection. A False Non-Reactive result may occur if the quantity of antibodies for the SARS-CoV-2 virus present in the specimen is below the detection limit of the assay, or if infection occur recently (within week). This means that you could possibly still have COVID-19 even though the test is Non-Reactive. Some people may take even longer to develop antibodies, and some people who are infected may not ever develop antibodies.

**Equivocal Result:** For samples in the equivocal (Grey zone) results show that the test detected some IgG antibodies to SARS-CoV-2, but the antibody level was too low to determine that you have had a past infection. Equivocal results may indicate a very early infection or a prior infection with other Coronaviruses. It is recommended that the test be repeated at a later date.

### ICMR Advisory (Dated 23-June-2020)

IgG antibodies generally start appearing after two weeks of onset of infection, once the individual has recovered after infection and last for several months. Therefore, the IgG test is not useful for detecting acute infection. However, detection of IgG antibodies for SARS-CoV-2 may be useful in the following situations:

- (i) Serosurveys to understand the proportion of population exposed to infection with SARS-CoV-2 including asymptomatic individuals. Depending upon the level of seroprevalence of infection, appropriate public health interventions can be planned and implemented for prevention and control of the disease. Periodic serosurveys are useful to guide the policy makers.

- (ii) Survey in high risk or vulnerable populations (health care workers, frontline workers, immunocompromised individuals, individuals in containment zones etc) to know who has been infected in the past and has now recovered.

ICMR recommends Antibody Testing for sero-surveillance purposes, not for diagnostic purposes.

FDA has authorized antibody tests for this virus that have been submitted for their review. But these tests are not 100% accurate and some false positive results or false negative results may occur.