



COVID-19 Antibody Testing Frequently Asked Questions

COVID-19 antibody testing is being promoted as a way to tell who has already had COVID-19 with the presumption that people may be immune to getting the disease. Much is still unknown about antibody testing.

The medical/technical team of the Unified Health Command, which is made up of Billings Clinic, St. Vincent Healthcare, RiverStone Health and Yellowstone County Disaster and Emergency Services, has compiled this information about antibody testing.

I had COVID-19, am I now immune to it?

We don't know the answer. What we do know is:

- Most other viral infections stimulate your body to make antibodies against the virus, providing a degree of protection from re-infection for some period of time.
- Antibodies to the common cold, which is sometimes caused by another type of coronavirus, seem to last only 1-3 years; antibodies to measles generally last a lifetime.
- A few reports from China and South Korea suggest people have been re-infected with COVID-19. It is unclear if this is due to testing issues or true re-infection.
- It is very likely that people who have had COVID-19 should have some immunity for some time, but nobody knows for sure.

Does the severity of COVID-19 illness or the levels of antibody matter for presumed immunity?

When you are infected with a virus, your body makes different types of antibodies against different parts of the virus, in varying quantities. IgG antibodies are the antibodies that usually provide long-term immunity. Scientists are currently looking at all of the different antibodies present in the plasma of people who have had COVID-19 to see which antibodies seem to be the most numerous and react most strongly against the virus.

We currently don't know which antibodies are most protective, how many of the different antibodies need to be present to create immunity, or whether the levels of the antibodies correlate to the level of immunity or longevity of immunity.

What do we need to know about a test before we call it a good test?

After the pandemic started, the Food and Drug Administration (FDA) allowed institutions and companies to produce their own tests, provided they used an FDA-approved procedure to validate the tests. Antibody tests are not hard to make; however, it is difficult to make a **good** antibody test. To make a good test, you have to know:

- Which antibodies and how many of them to look for.
- What it means if some antibodies are present but not others. Suppose two of four tested antibodies are present. Does that mean you are immune?

- How good the test is at determining who has tested positive and therefore is truly immune. This is the positive predictive value of the test.
- Does the test correctly identify people who have **not** been infected? This is the negative predictive value of the test.
- Is the test specific only to COVID-19? Some tests may show a positive result by detecting antibodies from a different coronavirus that you may have previously had. Many common colds are caused by other types of coronaviruses.
- Has the test been validated? Has it been repeated with multiple people and demonstrated good and consistent results?

What we **DON'T** KNOW:

- Whether having antibodies, and which type of antibodies, actually provide immunity.
- If those antibodies provide immunity, how long that immunity may last.
- If you can become re-infected if you have COVID-19 antibodies.
- Whether you could potentially transmit the virus to others if you have COVID-19 antibodies and then you have a new exposure to the virus.

If scientists are still studying the antibodies, why are there hundreds of antibody tests already on the market?

Many tests on the market are imported from China or Europe, and some have been made by small companies in the United States that rushed to produce a test.

Many of these tests have not been validated or approved by anyone other than the companies making them.

When and how is an antibody test useful?

While both Billings Clinic and St Vincent Healthcare have the capability to obtain antibody testing, this test is only recommended in certain circumstances. The clinical applications of antibody tests are still unclear. The consensus among experts call for using the test in these circumstances:

- To study the population to see how many people have antibodies to COVID-19.
- To identify people who have recovered from COVID-19 and could be potential donors for plasma therapy.
- To determine the presence and duration of protective immunity, which may help inform future safety decisions about employees returning to the workplace.
- To determine the body's response, such as the development of antibodies, after a vaccination has been developed and is in use.

Antibody tests should **NOT** be used:

- To identify a person with an active case of COVID-19.
- As part of a pre-procedural screening process.
- As a “test of cure” for COVID-19.
- To test someone for immunity to COVID-19

