

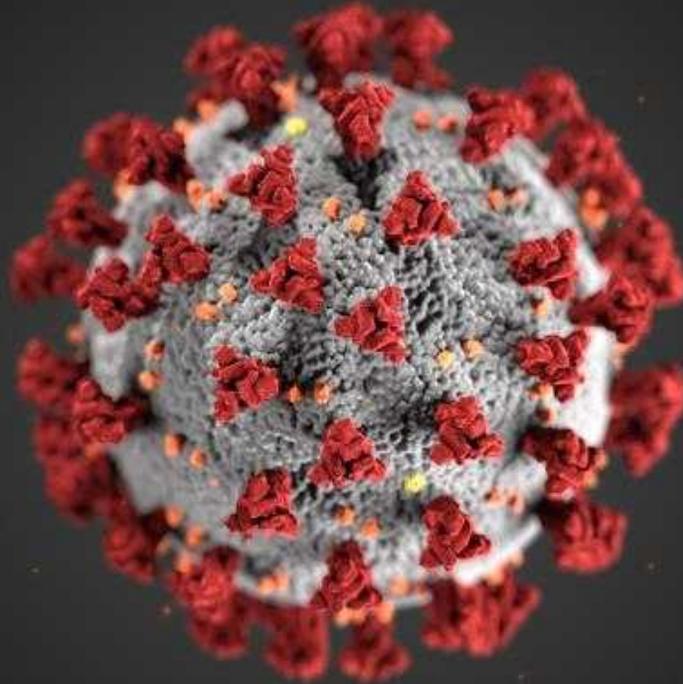


Women's Health Awareness Transforming Communities by Enhancing Women's Health



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What You Need to Know About COVID-19 Antibodies

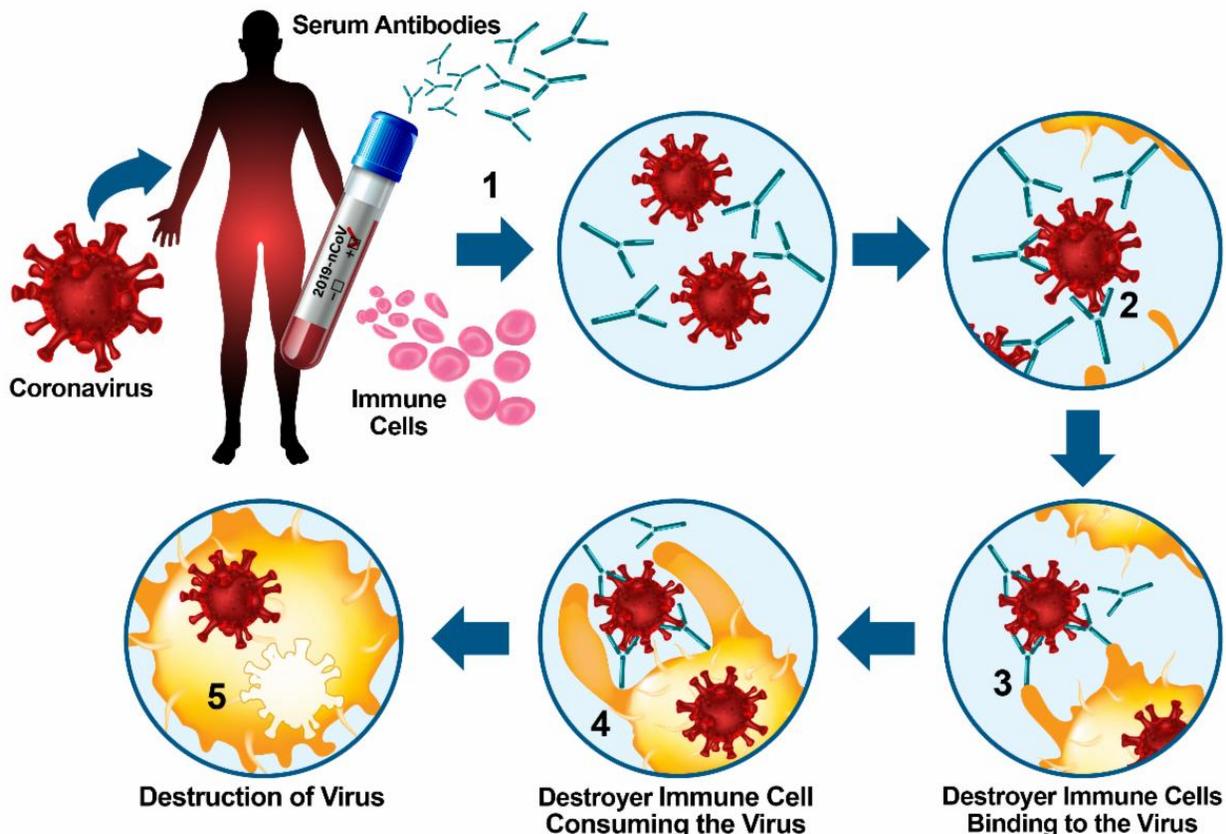


What's the big deal about COVID-19 antibodies?

The presence of antibodies in the blood indicates prior infection with a microbial invader such as the SARS-CoV-2 virus that causes the COVID-19 disease.

It is important for us to understand how antibodies work in our bodies so that we know the significance of having a healthy immune system and response to microbial invaders. Having a healthy immune system allows for antibody development to attack the microbe in this case the SARS-CoV-2 virus. For your immune system to attack this virus, your body must produce enough circulating antibodies to provide a healthy immune response to fight the SARS-CoV-2 virus and prevent the COVID-19 disease. Additionally, after your infection is over, your body should still make enough antibodies to hopefully protect you from re-infection. Please note: research is still being performed to validate whether antibodies offer immunity from COVID-19.

The graphic below shows how antibodies work together with other parts of the immune system to destroy infectious microbes, like viruses. (1) Antibodies are large Y-shaped proteins that are found in blood. (2) The tip of the Y-shaped antibody acts like a lock that fits a specific key-like structure on the virus. Your immune system makes each antibody to specifically recognize each virus through a key-like structure. This allows the antibody to bind to the virus like a lock and key mechanism. (3) This binding allows another type of immune cell, destroyer immune cells, to recognize the antibody attached to the virus. (4) The destroyer cells bind to the antibody which leads to the virus being absorbed by the destroyer immune cell causing (5) destruction of the virus.



Credit: National Institute of Environmental Health Sciences, Clinical Research Program

Why is antibody testing important?

Antibody testing is important to help identify people who have been exposed to the SARS-CoV-2 virus.

“This can give us a clearer picture of the magnitude of the COVID-19 pandemic in the United States by telling us how many people in different communities have been infected without knowing it, because they had a very mild, undocumented illness or did not access testing while they were sick.” – as quoted by Dr. Anthony Fauci, Director, National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH).

Antibodies detect the body’s immune response to the infection caused by the virus rather than detecting the virus itself. Experience with other viruses suggests that individuals who have recovered from COVID-19 infection will have antibodies in their blood.

These individuals may also be eligible to serve as potential donors of convalescent plasma (Doctors call the antibodies in the blood convalescent

plasma). By performing a blood draw, convalescent plasma is obtained from an individual who has recovered from the COVID-19 infection. Researchers hope that convalescent plasma can be given as a treatment to people with severe COVID-19 to boost their ability to fight the virus. Researchers across the globe are working to confirm this and other treatment options.

Facts and Myths About Antibody Testing

1. To test for antibodies, a person needs to have a blood draw performed.

Fact! Yes, antibodies are only found in the blood. Therefore, a blood draw is needed for the analysis.

2. Antibodies can instantly be found in the blood after an individual becomes infected by a pathogen, like the SARS-CoV-2 virus.

Myth! It takes 1 to 3 weeks after infection for antibodies to be detectable in the blood. Only then can an antibody test be performed. In the early days of an infection, the body's immune response is still building, and antibodies may not be present in detectable levels. This limits the test's effectiveness for diagnosing COVID-19 and is why antibody testing should not be used as the sole basis to diagnose COVID-19.

3. If my COVID-19 antibody tests is positive, I am immune to contracting the virus again.

Remains to be determined. It is currently not clear, whether antibodies can prevent a re-infection.

4. My COVID-19 antibody test came back positive; therefore, I need to quarantine myself because I am infectious.

Myth! Antibody testing detects a prior infection to COVID-19 and that your immune system has made antibodies to that infection. Antibody testing does not check whether you are currently infected by COVID-19. A diagnostic test (e.g. nasal swab test) is needed to determine if you are currently infected by COVID-19. Guidelines for physical distancing and use of personal protective equipment (PPE) still needs to be followed.

5. Once I have COVID-19 related antibodies, I will always have antibodies to COVID-19.

Myth! At this time, researchers do not know how long COVID-19 related antibodies will persist or be present in the body. Also, researchers do not know what level of immunity that antibodies offer to protect you from COVID-19 infection.

Fast Facts!!!

Good News! Researchers at the National Institute of Allergy and Infectious Diseases (NIAID/NIH) have recently found a drug used for Ebola treatment, Remdesivir, is showing promise as an effective treatment for COVID-19! According to a National Institutes of Health (NIH) news release on Wednesday, April 29, 2020, hospitalized patients with



advanced COVID-19 and lung involvement who received Remdesivir recovered faster than similar patients who received placebo. Preliminary results indicate that patients who received Remdesivir had a 31% faster time to recovery than those who received placebo. Specifically, 11 days for patients treated with Remdesivir compared with 15 days for those who received placebo. Results also suggested a survival benefit, with a mortality rate of 8.0% for the group receiving Remdesivir versus 11.6% for the placebo group.

[Click Here For More Information](#)

The Centers for Disease Control and Prevention (CDC) added new symptoms to COVID-19 list! People with COVID-19 have had a wide range of symptoms reported – ranging from mild symptoms to severe illness. Symptoms may appear 2-14 days after exposure to the virus. The new symptoms added to the list include **fever, chills, repeated shaking with chills, muscle pain, headache, sore throat, and new loss of taste or smell.**

[Click Here For More Information](#)



Tips for Working from Home with Family. Working from home with kids can be trying. Staff meetings and kids just don't mix. Here are 3 tips to help you. It is important to communicate, collaborate, and coordinate. **1.** Make a routine that works for you and your family. **2.** Include your kids by asking them to help. For example, have them make a do not disturb

sign that you can use during conference calls. That way the child can respect family time and work because they feel invested in both. **3.** Set realistic expectations. Productivity looks different now than it did before. Be sure to be flexible and make all goals achievable.

We're Better Together

A New COVID-19 Crisis: Domestic Violence

In the mist of the COVID-19 pandemic, domestic violence is on the rise. If you or someone you know is experiencing domestic violence and need support call **1-800-799-7233** or **1-800-787-3224** for TTY.

If you're unable to speak safely there is an online chat. You can visit <https://thehotline.org> or text **LOVEIS** to **22522**.

PLEASE NOTE: If you are in a domestic violence crisis go to a safe place and **CALL 911!**

During this time of physical distancing, if you or someone you care about is in a crisis and feels overwhelmed with emotions like sadness, depression or anxiety, there is help and support.

For support and/ or help, contact the [Disaster Distress Helpline](#) at **800-985-5990**, **Text TalkWithUs to 66746**. **TTY 1-800-846-8517**. Or the [National Suicide Prevention Lifeline](#) at **800-273-8255**

CALL 911, if you or others you know want to harm themselves.

workers learn to protect yourselves!

The National Institute of Environmental Health Sciences (NIEHS) has a training site for front-line workers to learn how to protect themselves from exposure to COVID-19 during this pandemic.



[Click Here for Training](#)

This communication was developed by the Office of Human Research Compliance, Clinical Research Branch, National Institute of Environmental Health Sciences.

For additional information or if you have any questions, please contact **whad@niehs.nih.gov** or **919-541-3852**

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