TEST

Antibody titer blood test

An antibody titer blood test measures the amount of a specific antibody in your blood.

WHAT IT MEASURES
Amount of a specific antibody in your blood

SAMPLE
Blood from a vein

FASTING NEEDED?
No, unless combined with other tests requiring fasting

HOW LONG IT TAKES
Usually 5 to 10 minutes

RESULTS IN
Usually 1 to 3 days; longer for send-outs, by laboratory

USED FOR
Checking immunity, supporting diagnosis, or monitoring antibody changes

MAIN LIMITATION
Meaning changes with the antibody, method, and timing

Overview

An antibody titer blood test measures antibodies against a particular target. Antibodies are proteins made by your immune system after an infection, vaccination, or exposure to another substance.

"Titer" usually means that a blood sample is repeatedly diluted. The laboratory reports the most diluted sample in which the antibody can still be detected, such as 1:40 or 1:160.

A larger second number generally means more antibody was detected. However, 1:160 is not automatically better, worse, or more protective than 1:40. Its meaning depends on the antibody and reason for testing.

Some laboratories instead report a concentration, index, or positive, negative, or borderline result. These tests may still be called antibody titers even when serial dilution was not used.

Why the test is ordered

An antibody titer may be ordered to:

The purpose differs by antibody. For example, hepatitis B surface antibody, antinuclear antibody, and measles antibody tests answer different questions.

Testing is not routinely useful after every vaccination. For some vaccines, documentation of completed vaccination is more useful. Some tests may also miss low levels of vaccine-related antibodies even when immune memory remains.

- Look for evidence of a past infection
- Check immunity after infection or vaccination in selected situations
- Support the diagnosis of certain infections or autoimmune conditions
- Follow changes in an antibody level
- Monitor certain red blood cell antibodies during pregnancy

Who should have the test

You may be offered testing when the result could answer a specific clinical question. Examples include uncertain vaccination records, possible infection exposure, symptoms of an autoimmune condition, or follow-up of an antibody already detected.

Some workers are tested after possible workplace exposure. During pregnancy, testing may monitor antibodies that can react with a fetus's red blood cells.

A titer is not a general "immune system check." The laboratory must measure a specific antibody, and no single result describes your overall immunity.

How to prepare

Most antibody titer tests do not require fasting. You can usually eat, drink water, and take your usual medicines.

You may need to fast if other blood tests are being collected at the same appointment. Follow the instructions for the complete set of tests.

Tell the healthcare professional arranging the test about:

Do not stop prescribed medicine unless you have been specifically told to do so.

- Recent vaccinations or infections
- Immune-suppressing medicines
- Antibody treatments or immune globulin

- A recent blood or plasma transfusion
- Pregnancy or possible pregnancy

What happens during the test

A healthcare professional cleans the skin, usually inside your elbow or on the back of your hand. A needle is placed into a vein, and blood is collected into one or more tubes.

You may feel a brief scratch or sting. The needle is then removed, and pressure is applied to the area.

The appointment usually takes 5 to 10 minutes. The sample may be tested locally or sent to a specialist laboratory.

Understanding your results

Your report should name the antibody and provide the laboratory's interpretation. Results may appear as:

A positive result means the target antibody was detected. It does not always mean you currently have an infection. Antibodies can remain after an infection clears or appear after vaccination.

A negative result means the antibody was not detected at the laboratory's cutoff. It may not rule out infection or lack of immunity. Testing may have occurred too early, antibody levels may be low, or the method may not reliably detect vaccine-related immunity.

For some infections, two samples collected at different times are more informative than one. A meaningful rise may suggest a recent immune response, but the required timing and change depend on the infection and test method.

Interpretation varies by laboratory, age, pregnancy status, medicines, timing, and clinical context. Different antibodies and laboratory methods do not share one universal reference range.

- A dilution, such as 1:80
- A numerical concentration
- Positive, negative, or borderline
- Detected or not detected

- Immune, nonimmune, or indeterminate

What affects the results

Factors that can affect antibody results include:

Medicines do not usually interfere directly with the sample, but medicines that affect immune function can change antibody production.

- Timing: Antibodies may not be detectable soon after infection or vaccination and can decline over time.
- Vaccination: Vaccines may cause positive results, and some tests cannot distinguish vaccination from past infection.
- Immune suppression: Medicines, cancer treatment, transplantation, or immune conditions may reduce antibody production.
- Passive antibodies: Immune globulin, antibody medicines, or plasma-containing transfusions can temporarily add donor antibodies.
- Pregnancy: The meaning of some red blood cell antibody titers differs during pregnancy.
- Age: Infants can carry antibodies transferred from their mother.
- Cross-reactions: Antibodies to related organisms or substances may react with the test target.
- Laboratory method: Assays use different targets, units, and cutoffs, so results may not match across laboratories.

Accuracy and limitations

Accuracy depends on the antibody and testing method. There is no single accuracy figure for all antibody titers.

Testing may miss an antibody if performed before your body responds, if levels are low, or if the test is not designed to detect the type of antibody produced after vaccination.

A positive result may sometimes reflect a related antibody, nonspecific reaction, or passively received antibodies. Borderline and low-positive results often require interpretation alongside your history and other findings.

Antibody testing is often not the best way to identify an active infection. A molecular test, such as PCR, or an antigen test may detect the organism more directly. For autoimmune conditions,

antibody results can support assessment but rarely establish a diagnosis alone.

When monitoring change, using the same laboratory and method makes comparison more reliable. Some positive screening results require a confirmatory or more specific test.

Risks and complications

The main risks are a small bruise, brief soreness, or feeling faint during the blood draw. Persistent bleeding, infection, and other complications are uncommon.

What happens next

Next steps depend on the antibody and reason for testing. They may include reviewing vaccination records, repeating the test after an appropriate interval, comparing it with an earlier sample, or arranging another type of test.

Do not make decisions about vaccination, infection precautions, pregnancy care, or immune-suppressing medicine from the number alone. Interpretation must consider the test name, method, timing, and your clinical situation.

An antibody result is rarely an emergency by itself. However, do not wait for the result if you develop severe symptoms such as trouble breathing, new confusion, or signs of a stroke. Seek urgent medical care based on your symptoms, not the pending titer.

Common questions

Can I drink coffee before an antibody titer test?

Usually, yes. If you are fasting for other tests collected at the same time, follow those instructions; black coffee may not be permitted.

Does the time of day matter?

Usually not. If you are having repeat measurements, follow any timing instructions provided.

Can I exercise beforehand?

Normal activity is unlikely to affect an antibody titer. Follow different instructions if other tests are being collected.

How soon after a vaccine can I have the test?

Timing depends on the vaccine, antibody, and reason for testing. Testing too early may

produce a negative or low result before the immune response develops. Testing is not routinely recommended after every vaccine.

Does a positive result mean I am immune?

Not always. Some antibodies are linked with protection only above a defined level, while others show exposure without proving protection. For some infections, no antibody cutoff guarantees immunity.

Can I compare results from different laboratories?

Not reliably. Laboratories may use different targets, equipment, units, and cutoffs. Repeat results are easier to compare when the same method and laboratory are used.

Sources

- MedlinePlus Medical Test. Antibody Serology Tests . US National Library of Medicine.
- Centers for Disease Control and Prevention. General Best Practice Guidelines for Immunization: Best Practices Guidance of the Advisory Committee on Immunization Practices .
- Centers for Disease Control and Prevention. Guidance for Evaluating Health-Care Personnel for Hepatitis B Virus Protection and for Administering Postexposure Management . MMWR Recommendations and Reports. 2013;62(RR-10):1-19.
- Centers for Disease Control and Prevention. Laboratory Testing for Varicella-Zoster Virus (VZV) .
- US Food and Drug Administration. Antibody (Serology) Testing for COVID-19: Information for Patients and Consumers .
- American College of Rheumatology. Antinuclear Antibodies (ANA) patient information.