TEST

Aspergillosis precipitin

A blood test that looks for antibodies produced in response to Aspergillus mould

WHAT IT MEASURES
Antibodies that bind Aspergillus mould proteins

SAMPLE
Blood from a vein

FASTING NEEDED?
No

HOW LONG IT TAKES
A few minutes for blood collection

RESULTS IN
Several days, varying by laboratory

USED FOR
Supporting diagnosis of chronic or allergic pulmonary aspergillosis

MAIN LIMITATION
A positive result does not prove active disease

Overview

An aspergillosis precipitin test is a blood test for antibodies against Aspergillus . This is a widespread mould found in soil, compost, dust, and decaying plants.

Antibodies are proteins made by your immune system. Finding certain Aspergillus antibodies shows that your immune system has reacted to the mould. It does not, by itself, show whether you currently have an illness caused by it.

"Precipitin" describes an older laboratory method in which antibodies and mould proteins form visible lines in a gel. Many laboratories now use newer tests that measure Aspergillus -specific immunoglobulin G, usually called Aspergillus IgG. Your report may therefore say "Aspergillus antibodies," "Aspergillus IgG," or "precipitins."

The result is interpreted alongside your symptoms, medical history, chest imaging, and sometimes sputum or other laboratory tests.

Why the test is ordered

The test is mainly used when a healthcare professional is investigating a long-term or allergic lung reaction involving Aspergillus .

It may support an assessment for:

Aspergillus IgG is particularly useful when chronic pulmonary aspergillosis is suspected. However, the blood result cannot confirm the condition without compatible imaging and clinical findings.

This test is generally not used to screen people who feel well. It is also not the best blood test for every form of aspergillosis. If rapidly developing invasive aspergillosis is suspected, particularly in someone with a severely weakened immune system, other tests are usually more important.

- Chronic pulmonary aspergillosis, a long-lasting lung condition that can cause cavities or fungal growth in damaged lungs
- Allergic bronchopulmonary aspergillosis, an allergic lung reaction seen mainly in people with asthma, cystic fibrosis, or bronchiectasis
- An aspergilloma, sometimes called a fungal ball, growing inside an existing lung cavity

Who should have the test

You may be offered this test if chest imaging shows a cavity, fungal ball, thickening around a cavity, or another persistent change that could be related to Aspergillus .

It may also be considered if you have an existing lung condition and ongoing symptoms such as cough, fatigue, weight loss, breathlessness, or coughing up blood. These symptoms have many possible causes, so the test is used as one part of an assessment rather than as a diagnosis on its own.

For suspected allergic bronchopulmonary aspergillosis, other blood tests are usually needed. These may include total IgE and Aspergillus -specific IgE, which measure antibodies involved in allergic reactions.

People with severely reduced immune responses may not produce enough antibodies for this test to work reliably. A healthcare professional may choose fungal antigen tests, cultures, molecular tests, imaging, or a tissue sample instead.

How to prepare

You do not need to fast. You can usually eat, drink water, and take your regular medicines

before the blood draw.

Tell the person arranging the test if you:

Do not stop prescribed medicine to prepare for the test unless the clinician responsible for it has specifically told you to do so.

- Take medicines that suppress the immune system
- Have an immune system disorder
- Recently received immunoglobulin treatment or a blood transfusion
- Are taking antifungal medicine
- Have had previous aspergillosis or another significant fungal infection

What happens during the test

A healthcare professional places a small needle into a vein, usually on the inside of your elbow or the back of your hand. A small amount of blood is collected into a tube.

The blood draw normally takes only a few minutes. Pressure and a small dressing are applied afterward.

The sample is sent to a laboratory. Depending on the laboratory, the result may be reported as positive or negative, as a titre, or as a numerical Aspergillus IgG concentration.

Understanding your results

A positive result means that antibodies reacting with Aspergillus were found. This can support a diagnosis when you also have compatible symptoms and chest imaging.

A positive result does not prove that mould is currently growing in your lungs. Antibodies may remain after an earlier infection or reflect an allergic response, long-term colonisation, or substantial environmental exposure. Related fungi can sometimes cause antibody cross-reactions.

A negative result means that the test did not find antibodies above that laboratory's cutoff. It makes some forms of chronic aspergillosis less likely, but it does not completely rule them out. Results may be negative if your immune system cannot make a strong antibody response or if the test does not detect the particular Aspergillus species involved.

There is no single universal reference range. Cutoffs, units, and methods differ between laboratories, so a number from one laboratory may not be directly comparable with one from

another.

Interpretation can also vary with age, sex, pregnancy status, medicines, immune function, and the wider clinical context. Age, sex, and pregnancy do not usually have separate standard ranges for this test, but they may affect the overall assessment.

What affects the results

The main influences relate to your immune response and the laboratory method, rather than food or activity.

Medicines that suppress immunity can reduce antibody production and contribute to a negative result despite infection. The same applies to some blood cancers, antibody deficiencies, and other conditions that weaken immune responses.

Recent treatment with intravenous immunoglobulin can temporarily introduce antibodies from donors and interfere with some antibody tests. A recent transfusion, especially one involving plasma, should also be mentioned when the result is interpreted.

Previous aspergillosis may leave antibodies detectable after the active condition has improved. Antifungal treatment can change antibody levels over time, but the level does not always follow recovery closely enough to be used alone for monitoring.

Tests use selected Aspergillus proteins. If your reaction is mainly to a different species or proteins not well represented in the assay, the result may be falsely negative. Older precipitin methods and newer quantitative IgG tests can also produce different results.

Kidney function, ordinary meals, coffee, exercise, and the time of day do not usually have a meaningful direct effect. The laboratory method, immune status, and past exposure are much more important.

Accuracy and limitations

Aspergillus IgG is an important supporting test for chronic pulmonary aspergillosis, but its accuracy is not identical in every setting. Different assays use different mould proteins and cutoffs, and performance can change between populations and regions.

The test can miss disease. This is more likely when antibody production is impaired, the infection is at an early stage, a less well-detected Aspergillus species is involved, or an older precipitin method is used.

It can also say "positive" when active chronic disease is not present. This may happen after

past infection, with allergic aspergillosis, after heavy exposure, or because antibodies react with a related fungus.

Chest CT imaging is usually more informative about cavities, fungal balls, and changes over time. Sputum culture or fungal PCR may provide evidence of the organism, although a negative respiratory sample does not always exclude it.

For suspected invasive aspergillosis, galactomannan testing in blood or fluid from the lungs, fungal PCR, culture, imaging, or tissue examination may be more appropriate. For allergic disease, IgE-based testing is more central than IgG alone.

Risks and complications

A blood draw can cause brief discomfort, a small bruise, or minor bleeding where the needle entered. Some people feel faint during or shortly after blood collection.

What happens next

Your result should be reviewed with the reason the test was ordered. A positive result may lead to chest CT imaging, comparison with earlier scans, breathing tests, sputum testing, or additional antibody tests.

A negative result may need no further action if the rest of the assessment is reassuring. If symptoms or imaging remain concerning, other fungal tests may still be needed.

Repeat Aspergillus IgG testing is sometimes used during follow-up, but changes can be slow and are not a reliable measure of improvement by themselves. Symptoms, imaging, lung function, and treatment effects remain important.

Contact your healthcare team promptly if you develop new or increasing blood in your sputum, worsening breathlessness, persistent fever, or a significant decline in how you feel. Seek emergency help for coughing up more than small streaks of blood, severe breathing difficulty, chest pain, fainting, confusion, or blue or grey lips or skin.

Common questions

Can I drink coffee before the test?

Yes. Coffee does not usually affect Aspergillus antibody results, and fasting is not required.

Does the time of day matter?

No. Antibody levels do not normally change enough during the day to require morning or afternoon testing.

Can I exercise beforehand?

Yes. Normal exercise is not expected to alter the result. If blood draws make you feel faint, sitting quietly and drinking water beforehand may help.

Should I stop my medicines?

No, not unless the clinician responsible for your care tells you to. Immunosuppressive and antifungal medicines may affect interpretation, so make sure they are recorded.

Does a positive result mean I have aspergillosis?

Not necessarily. It means your immune system has made antibodies that react with Aspergillus . Diagnosis requires the result to fit with your symptoms, imaging, and other tests.

Can a negative result rule it out?

No. A negative result lowers the likelihood of some chronic forms but can miss disease, especially when the immune system is weakened or the assay does not detect the species involved well.

Sources

- Infectious Diseases Society of America: Practice Guidelines for the Diagnosis and Management of Aspergillosis, 2016
- European Respiratory Society and European Society of Clinical Microbiology and Infectious Diseases: Chronic pulmonary aspergillosis guidelines, 2016
- Centers for Disease Control and Prevention: Clinical Overview of Aspergillosis
- Revised ISHAM-ABPA Working Group clinical practice guidelines for allergic bronchopulmonary aspergillosis, 2024
- UK Standards for Microbiology Investigations: Investigation of bronchoalveolar lavage, sputum and associated specimens