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Febrile (warm) and cold agglutinins

Agglutinins are antibodies that cause the red blood cells to clump together.

- Cold agglutinins are active at cold temperatures.
- Febrile (warm) agglutinins are active at normal body temperatures.

This article describes the blood test that is used to measure the level of these antibodies in the blood.

How the Test is Performed

A blood sample is needed.

How to Prepare for the Test

There is no special preparation.

How the Test will Feel

When the needle is inserted to draw blood, some people feel moderate pain. Others feel only a prick or stinging. Afterward, there may be some throbbing where the needle was inserted.

Why the Test is Performed

This test is done to diagnose certain infections and find the cause of hemolytic anemia (a type of anemia that occurs when red blood cells are destroyed). Knowing whether there are warm or cold agglutinins can help explain why the hemolytic anemia is occurring and direct treatment.

Normal Results

Normal results are:

- Warm agglutinins: no agglutination in titers at or below 1:80
- Cold agglutinins: no agglutination in titers at or below 1:16

The examples above are common measurements for results of these tests. Normal value ranges may vary slightly among different laboratories. Some labs use different measurements or test different samples. Talk to your doctor about the meaning of your specific test results.

What Abnormal Results Mean

An abnormal (positive) result means there were agglutinins in your blood sample.

Warm agglutinins may occur with:

- Bacterial infections, including brucellosis, rickettsial disease, salmonella infection, and tularemia
- Viruses such as hepatitis C, COVID-19, HIV, and Epstein Barr virus (infectious mononucleosis)
- Inflammatory bowel disease
- Lymphoma
- Systemic lupus erythematosus
- Use of certain medicines, including methyldopa, penicillin, and quinidine

Cold agglutinins may occur with:

- Bacterial infections, such as *Mycoplasma pneumoniae*, *Listeria monocytogenes*, and *Legionella pneumophila*
- Cancer, including lymphoma and multiple myeloma
- Systemic lupus erythematosus
- Viruses such as chicken pox (varicella), cytomegalovirus, Epstein Barr virus (infectious mononucleosis), hepatitis B, and hepatitis C
- Waldenström macroglobulinemia

Risks

Risks are slight but may include:

- Excessive bleeding
- Fainting or feeling lightheaded
- Hematoma (blood accumulating under the skin)
- Infection (a slight risk any time the skin is broken)

Considerations

If a disease linked to cold agglutinin is suspected, the person needs to be kept warm. If you have cold or warm agglutinin disease, you may need treatment for your hemolytic anemia.

Alternative Names

Cold agglutinins; Weil-Felix reaction; Widal test; Warm agglutinins; Agglutinins

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