

Free Light Chains (Blood)



Does this test have other names?

Serum free light chain assay, Freelite (brand name)

What is this test?

This test looks for signs of antibodies called immunoglobulins in your blood.

Immunoglobulins are made by white blood cells called plasma cells. They help protect you against infection and illness. Plasma, or myeloma, cells are found in your bone marrow. Light chains are also called Bence Jones proteins. They are named for the healthcare provider who first discovered them. Light chains make up part of the structure of immunoglobulins. Immunoglobulins are also made up of heavy chains.

The light chains attach themselves to the heavy chains and are then called bound light chains. When you have more light chains than heavy chains, those extra light chains are called "free" because they don't bind to the heavy chains. They are released in the blood instead. The more free light chains in your blood, the more plasma cells you have. This may mean there is a problem with the plasma cells.

This test is used to help diagnose a type of cancer called multiple myeloma. It may also be used to diagnose other conditions affecting the cells in your bone marrow. These include a usually benign condition called monoclonal gammopathy of undetermined significance (MGUS) and a serious disease called amyloidosis.

Why do I need this test?

You may need this test if your healthcare provider suspects multiple myeloma or another problem with your plasma cells. You may not have symptoms. If you do, they may include:

- Pain in your bones
- Increased protein on a blood test
- A low red blood cell count (anemia)
- High levels of calcium in the blood (hypercalcemia)
- Kidney problems
- Skin rash
- Nerve damage
- Inflammation in the blood vessels (vasculitis)

What other tests might I have along with this test?

Your healthcare provider may also order other tests, including:

- Biopsy of your bone marrow
- Electrophoresis tests of proteins in your blood and urine
- Free light chain test of your urine
- Immunoglobulin test on your blood

- Bone imaging tests
- Other blood tests, including complete blood count, creatinine, and calcium

What do my test results mean?

Test results may vary depending on your age, gender, health history, and other things. Your test results may be different depending on the lab used. They may not mean you have a problem. Ask your healthcare provider what your test results mean for you.

Results are given in milligrams per liter (mg/L). The test measures the levels of specific types of free light chains, known as kappa and lambda, and also the ratio between the two. Normal test results for free light chains are:

- 3.3 to 19.4 mg/L kappa free light chains
- 5.7 to 26.3 mg/L lambda free light chains
- 0.26 to 1.65 ratio of kappa/lambda

If your results are higher or lower, it may mean you have a problem with your plasma cells, such as multiple myeloma.

How is this test done?

The test is done with a blood sample. A needle is used to draw blood from a vein in your arm or hand.

Does this test pose any risks?

Having a blood test with a needle carries some risks. These include bleeding, infection, bruising, and feeling lightheaded. When the needle pricks your arm or hand, you may feel a slight sting or pain. Afterward, the site may be sore.

What might affect my test results?

Other factors aren't likely to affect your results.

How do I get ready for this test?

You don't need to prepare for this test. Be sure your healthcare provider knows about all medicines, herbs, vitamins, and supplements you are taking. This includes medicines that don't need a prescription and any illegal drugs you may use.

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