

Sex Hormone Binding Globulin (Blood)



Does this test have other names?

SHBG blood test

What is this test?

This test measures the level of sex hormone binding globulin (SHBG) in your blood. SHBG is a protein made by your liver. It binds tightly to 3 sex hormones found in both males and females. These hormones are estrogen, dihydrotestosterone (DHT), and testosterone. SHBG carries these 3 hormones throughout your blood.

Although SHBG binds 3 hormones, the hormone that's critical in this test is testosterone. SHBG controls the amount of testosterone that your body tissues can use. Too little testosterone in males and too much testosterone in females can cause problems. The level of SHBG in your blood changes because of factors such as sex and age. It can also change because of obesity, liver disease, and hyperthyroidism.

Why do I need this test?

You may need this test if your healthcare provider suspects that you have abnormal testosterone levels. The test can help diagnose various conditions and diseases, including:

- **Androgen deficiency.** Low levels of the hormone androgen can cause general weakness and sexual problems in males. In females, androgen may affect thinking and bone strength. It may also prevent the ovaries from working the way they should.
- **Hypogonadism.** This condition happens mostly in males. It's found in males with low testosterone and low sperm production.

What other tests might I have along with this test?

Your healthcare provider will likely also order total and free testosterone blood levels. This is because SHBG levels tend to change. Both the SHBG and total testosterone tests are needed to confirm an androgen deficiency.

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.

Low levels of SHBG can be related to:

- Obesity
- Type 2 diabetes
- Hypothyroidism
- Acromegaly, or too much growth hormone, causing body tissues to grow larger over time

High levels of SHBG can be related to:

- Hepatitis

- Hyperthyroidism
- HIV
- Anticonvulsants, or medicines used to treat seizures

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?

Opioids used for pain relief, medicines that affect the central nervous system, and recreational drug use can all affect your test results. Having an eating disorder or engaging in excessive, strenuous exercise can also 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 take. This includes medicines that don't need a prescription and any illegal drugs you may use.

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