TEST

Antithyroglobulin antibody test

A blood test that checks for antibodies against thyroglobulin, a protein made by the thyroid gland.

WHAT IT MEASURES
Antibodies targeting thyroglobulin, a protein made by the thyroid

SAMPLE
Blood

FASTING NEEDED?
No, unless combined with fasting blood tests

HOW LONG IT TAKES
Usually 5 to 10 minutes

RESULTS IN
One to several days, varying by laboratory

USED FOR
Supporting diagnosis and monitoring after thyroid cancer treatment

MAIN LIMITATION
Positive results do not prove thyroid disease

Overview

The antithyroglobulin antibody test measures antibodies against thyroglobulin, a protein made and stored by thyroid cells. Thyroglobulin helps the thyroid produce hormones that regulate energy use, temperature and heart rate.

Antithyroglobulin antibodies, shortened to TgAb , can appear when the immune system mistakenly reacts against the thyroid. Testing may help investigate autoimmune thyroid disease, usually alongside thyroid peroxidase antibodies, or TPO antibodies.

TgAb testing is also important after treatment for differentiated thyroid cancer because these antibodies can interfere with thyroglobulin blood tests used during follow-up.

The test does not show how well your thyroid works. That usually requires thyroid-stimulating hormone, or TSH, and free thyroxine, or free T4, tests.

Why the test is ordered

Your healthcare professional may order TgAb testing if blood results, symptoms, examination or imaging suggest autoimmune thyroid disease, particularly when other antibody results are unclear.

The test may also be ordered with thyroglobulin after surgery or radioactive iodine treatment for differentiated thyroid cancer. Thyroglobulin can indicate remaining thyroid tissue, but TgAb may make its measured level appear lower or, with some methods, higher than it is.

Measuring both helps your healthcare team interpret the thyroglobulin result. TgAb trends may provide supporting information, but TgAb is not a direct cancer test.

TgAb testing is not usually used alone to screen people without symptoms or another reason for thyroid testing.

Who should have the test

You may be offered this test if you have:

For suspected Graves' disease, TSH receptor antibody testing is generally more useful.

Symptoms such as tiredness, weight change or palpitations do not by themselves show that TgAb testing is needed because they have many possible causes.

- Thyroid results suggesting an autoimmune condition
- An enlarged thyroid, called a goitre, or ultrasound changes
- Suspected Hashimoto's thyroiditis with unclear antibody results
- Thyroglobulin testing during thyroid cancer follow-up
- A previous TgAb result that needs monitoring

How to prepare

You usually do not need to fast and can eat and drink normally unless other tests require fasting.

Tell your healthcare professional about all medicines, vitamins and supplements you take. High-dose biotin, sometimes sold for hair or nail health, can interfere with some laboratory tests. Do not stop prescribed medicines or supplements unless specifically instructed.

Mention pregnancy, recent childbirth, thyroid surgery, radioactive iodine, immune treatments, intravenous immunoglobulin or a recent blood transfusion because these may affect interpretation.

If you have previously fainted during blood tests, tell the person taking the sample. You may be able to lie down.

What happens during the test

A healthcare professional places a band around your upper arm, cleans the skin and inserts a needle into a vein, usually inside your elbow. A small amount of blood is collected into a tube. The needle is removed and pressure is applied.

The blood draw usually takes a few minutes. Results commonly return within one to several days, depending on the laboratory.

Understanding your results

Results may be reported as negative or positive, or as a number compared with the laboratory's reference limit. Methods and cutoffs vary, so do not directly compare results from different laboratories.

A negative result means TgAb were not detected above the laboratory's reporting limit. It does not rule out autoimmune thyroid disease or show that thyroid hormone levels are normal.

A positive result can support an autoimmune explanation when considered with symptoms, examination, TSH, free T4, TPO antibodies and imaging. However, some people have TgAb without thyroid dysfunction, so the result does not establish a diagnosis by itself.

During thyroid cancer follow-up, TgAb can make thyroglobulin results unreliable. Your healthcare team may assess TgAb trends over time, preferably using the same laboratory and method. A consistent trend is generally more informative than one rise or fall.

Interpretation may also depend on age, sex, pregnancy, medicines and clinical context.

What affects the results

Different testing systems may detect TgAb differently. Results can change if another laboratory or method is used.

Biotin can interfere with some platforms, with effects depending on the dose and test design. Pregnancy can lower antibody concentrations, which may rise again after delivery.

Thyroid surgery or radioactive iodine may temporarily alter TgAb levels, and meaningful trends can take months to develop. Medicines that affect the immune system may also change

antibody levels.

Intravenous immunoglobulin contains donated antibodies and can cause temporary or confusing results. A recent blood transfusion may also be relevant.

Rarely, other antibodies in the blood, including heterophile antibodies, interfere with the laboratory reaction and cause falsely high or low results.

Accuracy and limitations

TgAb testing does not detect every case of autoimmune thyroid disease. Some people with Hashimoto's thyroiditis have no measurable TgAb, and TPO antibodies are usually the more useful marker for that condition.

A positive test does not necessarily mean there is active thyroid dysfunction. TgAb can occur in people with other autoimmune conditions or with normal TSH and free T4 levels.

During thyroid cancer follow-up, a TgAb test may occasionally miss antibodies that still interfere with the thyroglobulin assay. Thyroglobulin immunoassays most commonly produce falsely low results when TgAb are present, although the effect varies by method.

When the concern is a thyroid nodule, remaining tissue or structural disease, ultrasound or other imaging may be more useful. A suspicious lump may require biopsy. An antibody blood test cannot replace these investigations when they are indicated.

Risks and complications

The risks are those of an ordinary blood draw. You may have brief discomfort, bruising or light-headedness. Serious complications are uncommon.

What happens next

Your result is reviewed with other thyroid tests. If thyroid hormone levels are normal and there are no concerning findings, routine follow-up or no immediate action may be appropriate. A positive antibody result alone does not always require treatment.

If TSH or free T4 is abnormal, your healthcare professional may recommend further testing or treatment. Thyroid hormone treatment is guided mainly by thyroid function, not the TgAb number alone.

After thyroid cancer treatment, follow-up may include repeated thyroglobulin and TgAb tests,

examination and imaging. Using the same laboratory makes trends easier to interpret.

Arrange routine medical review for ongoing neck swelling, persistent palpitations, unusual tiredness or unexplained changes in weight or temperature tolerance. Seek urgent or emergency care for severe trouble breathing, fainting, new confusion or rapidly worsening neck swelling, regardless of your antibody result.

Common questions

Can I drink coffee before the test?

Yes. Coffee does not usually affect TgAb testing. Follow fasting instructions if other tests require them.

Does the time of day matter?

Usually not. TgAb testing does not require a particular collection time, although other tests may.

Can I exercise beforehand?

Normal activity is unlikely to affect the result. Follow any separate advice given for other tests or health conditions.

Should I stop biotin before the test?

Biotin can interfere with some test systems. Tell your healthcare professional and the laboratory how much you take and when you last took it. Do not stop a prescribed product without specific advice.

Does a positive result mean I have Hashimoto's disease?

No. It may support the diagnosis but must be considered with TSH, free T4, other antibodies, symptoms and examination findings. Some people with positive TgAb have normal thyroid function.

Why is TgAb measured after thyroid cancer treatment?

TgAb can interfere with thyroglobulin, a marker used during follow-up. Measuring both helps identify potentially unreliable thyroglobulin results and allows antibody trends to be monitored.

Sources

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