

Anti-TSHR

The thyroid gland produces hormones thyroxine (T4) and triiodothyronine (T3), which are vital in regulating the metabolism. Production of these hormones is stimulated by the thyroid stimulating hormone (TSH).

Anti-TSHR is an antibody against TSH receptor. Two types of Anti-TSHR are known:

- Thyroid stimulating immunoglobulin (TSI), which causes hyperthyroidism by binding to receptors and mimicking the effects of TSH.
- Thyrotropin-binding inhibitory immunoglobulin (TBII), which causes hypothyroidism by blocking TSH from binding to receptors.

This test is used for the quantitative determination of TSI in human serum.

Why the Anti-TSHR test is performed?

The test is used to detect Anti-TSHR (thyroid stimulating immunoglobulin) in the serum. The test is performed when a person has signs or symptoms of Graves disease, toxic multinodular goiter and to monitor the effectiveness of anti-thyroid therapy.

The test is also done during the third trimester of pregnancy to predict neonatal Graves disease, because some women may continue producing Anti-TSHR even after clinical cure. Anti-TSHR are IgG antibodies, so they can cross the placental barrier and cause neonatal thyrotoxicosis.

How the Test is Performed and How to Prepare for the Test?

A blood sample is drawn from a vein. No special preparation is needed for the test.

What Do the Abnormal Results Mean?

Higher-than-normal levels may indicate:

- Graves disease
- Hashitoxicosis
- Neonatal thyrotoxicosis

Anti-TSHR is usually present in Graves disease. Elevated Anti-TSHR levels after a course of antithyroid drug treatment is predictive of Graves disease relapse. However, a normal Anti-TSHR test results are not predictive of prolonged remission.

Alternative Names

Anti-TSHR (Thyrotropin Receptor Antibody) is also known as Anti-Thyrotropin, TRAb, Antibodies to TSH receptor, TSH Receptor (Thyroid-Stimulating Hormone Receptor) Antibody, Long-Acting Thyroid Stimulator (LATS), TBII (TSH-Binding Inhibiting Immunoglobulin or Thyrotropin-Binding Inhibitory Immunoglobulin), TSH Receptor Blocking Antibody, TSI (Thyroid stimulating immunoglobulin).

Useful Information

If a patient is receiving therapy with high biotin doses, blood for the test should be drawn at least 8 hours after the last biotin administration.

No specimen should be drawn from patients receiving heparin treatment.