

What do your test results mean?

Thyroid-Stimulating Hormone (TSH):

In primary hypothyroidism, thyroid-stimulating hormone (TSH) levels are elevated. In primary hyperthyroidism, TSH levels are low. The ability to quantitative circulating levels of TSH is important in evaluating thyroid function. It is especially useful in the differential diagnosis of primary (thyroid) from secondary (pituitary) and tertiary (hypothalamus) hypothyroidism. In primary hypothyroidism, TSH levels are significantly elevated, while in secondary and tertiary hypothyroidism, TSH levels are low or normal.

Elevated or low TSH in the context of normal free thyroxine is often referred to as subclinical hypo- or hyperthyroidism, respectively.

T3 (Triiodothyronine), Free:

Normally triiodothyronine (T3) circulates tightly bound to thyroxine-binding globulin and albumin. Only 0.3% of the total T3 is unbound (free); the free fraction is the active form. In hyperthyroidism, both thyroxine (tetraiodothyronine; thyroxine: T4) and T3 levels (total and free) are usually elevated, but in a small subset of hyperthyroid patients (T3 toxicosis) only T3 is elevated.

T4 (Thyroxine), Free:

Free thyroxine (fT4) comprises a small fraction of total thyroxine. The fT4 is available to the tissues and is, therefore, the metabolically active fraction. Elevations in fT4 cause hyperthyroidism, while decrease causes hypothyroidism.

Thyroperoxidase (TPO) Antibodies:

Disorders of the thyroid gland are frequently caused by autoimmune mechanisms with the production of autoantibodies. Anti-TPO antibodies activate complement and are thought to be significantly involved in thyroid dysfunction and the pathogenesis of hypothyroidism. In patients with sub-clinical hypothyroidism, the presence of TPO antibodies, predicts a higher risk of developing overt hypothyroidism, 4.3% per year versus 2.1% per year in antibody-negative individuals. Such patients may be at risk of developing other autoimmune diseases, such as adrenal insufficiency and type 1 diabetes.

This report is only for information purpose and does not provide any diagnosis or treatment. There may be many other risk factors that must be considered for a complete assessment of your health. Please consult your healthcare provider to discuss your results and any questions you may have about your wellness. This test was developed and its performance characteristics determined by AYUMETRIX. It has not been cleared or approved by the FDA. The laboratory is regulated under CLIA as qualified to perform high-complexity testing.

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