



RayBiotech, Inc.

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Certificate of Analysis and Data Sheet

Human Thyroglobulin (TG)

Catalog No.
228-11511

Source:
Native, Isolated from human thyroid glands.

Synonyms

Thyroglobulin, TGN, AITD3, TG.

Introduction

Thyroglobulin (TG) represents one of the main autoantigenic targets in autoimmune thyroid disease of humans. TG is a large globular dimeric glycoprotein with a total molecular weight of 660 kDa, which occupies a key precursor role in the biosynthesis of the thyroid hormones. Approximately 75% of the total protein content of the thyroid follicle consists of TG. The thyroid gland uses the Thyroglobulin in order to produce the thyroid hormones thyroxine (T4) and triiodothyronine (T3). Thyroglobulin is produced by the thyroid epithelial cells (thyrocytes) which form spherical follicles. Thyroglobulin is subsequently secreted and stored in the follicular lumen.

Patients with Hashimoto's thyroiditis or Graves' disease, frequently develop antibodies against Thyroglobulin. Tg-specific antibodies help in the diagnosis of the above diseases, however they also may be present in apparently healthy euthyroid individuals. Blood Thyroglobulin levels can be used as a tumor marker for certain kinds of thyroid cancer, and they may also be elevated in cases of Graves' disease.

Description

Human Thyroglobulin is a glycosylated, polypeptide chain having a total molecular mass of 662 kDa (331 kDa per subunit).

Formulation

Human Thyroglobulin is supplied at a concentration of 0.82mg/ml in 16mM HEPES buffer pH-7.6, 240mM sodium chloride, and 20% glycerol.

Storage Conditions

Store at 4°C if entire vial will be used within 2-4 weeks.

Store, frozen at -20°C for longer periods of time.

Avoid multiple freeze-thaw cycles.

**The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.**



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Immunological functions

1. Binds to IgG-type human auto-antibodies.
2. Auto-antibodies to thyroglobulin recognize conformation-dependent epitopes.
3. Standard ELISA test (checker-board analysis of positive/negative sera panels, including 1st international reference serum NIBSC 65/93).

Coating concentration 0.7-1 $\mu\text{g/ml}$ (depending on the type of ELISA plate and coating buffer).
Suitable for biotinylation and iodination.

Purity

Greater than 95% as determined by SDS-PAGE.

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