

Recombinant Human TG Protein, His tagged

Cat. No. TG-11H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Thyroglobulin Human produced in a mammalian cell line is a single, non-glycosylated polypeptide chain (1-2768 a.a.) and having a molecular mass of 304640 Dalton. Thyroglobulin Human is fused with GlyAlaProGly4SerHis10-tag at C-terminal and purified by proprietary chromatographic techniques.
Species	Human
Source	HEK293
ProteinLength	1-2768 aa
Description	Thyroglobulin, a glycoprotein primarily produced in the thyroid gland, stands at the center of thyroid hormone synthesis. Comprising a series of tyrosine residues, thyroglobulin serves as the scaffold upon which thyroid hormones are assembled. Beyond its pivotal role in thyroid physiology, thyroglobulin has garnered significant attention in the realm of thyroid disease diagnostics, offering valuable insights into thyroid function and disorders. This research delves into the intricacies of thyroglobulin human recombinant protein, exploring its biochemical properties, physiological significance, and its crucial applications in both clinical and research settings. Structural Complexity of Thyroglobulin: Thyroglobulin is a large, dimeric protein boasting an intricate structure composed of multiple domains. Within its structure lie tyrosine residues crucial for iodine incorporation, a process fundamental for thyroid hormone synthesis. Its size and complexity reflect the sophistication of thyroid hormone production, as thyroglobulin acts as a reservoir for thyroid hormones

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within the thyroid follicles. Physiological Significance in Thyroid Function: Thyroglobulin plays a central role in the synthesis of triiodothyronine (T3) and thyroxine (T4), the thyroid hormones essential for regulating metabolism and overall body homeostasis. During thyroid hormone synthesis, thyroglobulin is secreted into the follicular lumen, where it undergoes iodination and subsequent proteolysis, releasing T3 and T4. This process highlights the indispensable nature of thyroglobulin in thyroid hormone production, making it a key biomolecule in thyroid physiology.

Form	Sterile Filtered White lyophilized (freeze-dried) powder. Thyroglobulin was lyophilized from PBS, pH 7.4 and 5.4 % sucrose.
Molecular Mass	30.4640 kDa
Purity	> 95% by SDS-PAGE
Notes	Our products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.
Storage	Lyophilized Thyroglobulin although stable at room temperature for 3 weeks, should be stored desiccated below -18 centigrade. Upon reconstitution Thyroglobulin should be stored at 4 centigrade between 2-7 days and for future use below -18 centigrade. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.
Shipping	Shipped at Room temperature.
Solubility	It is recommended to reconstitute the lyophilized Thyroglobulin in sterile 18MΩ-cm H2O not less than 100 µg/mL, which can then be further diluted to other aqueous solutions.

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GENE INFORMATION

Gene Name	TG thyroglobulin [Homo sapiens (human)]
Official Symbol	TG
Synonyms	TGN; AITD3; Thyroglobulin, TGN, AITD3, TG
Gene ID	7038
mRNA Refseq	NM_003235.4
Protein Refseq	NP_003226
MIM	188450
UniProt ID	P01266

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