Thyroglobulin (TG) Antibody – Mouse Monoclonal

PRODUCT OVERVIEW

Product Name	Thyroglobulin (TG), Monoclonal Antibody
Full Product Name	Thyroglobulin (T3/T4) Monoclonal Antibody
Product Gene Name	anti-TG antibody
Product Synonym Names	Anti-Thyroglobulin; Thyroglobulin
Clonality	Monoclonal
Isotype	IgG1
Host	Mouse
Form/Format	1 ml ascites or 1 mg Protein G-purified antibody in PBS, pH 7.4
Specificity	Anti-Thyroglobulin [Murine MAbs recognize human thyroglobulin. T4-specific]
Preparation and Storage	These antibodies are stable for at leastone (1) year at -20 degree C to -70 degree C. Store product in appropriate aliquots to avoid multiple freeze-thaw cycles.
Molecular Weight	304,790 Da
OMIM	188450
3D Structure	ModBase 3D Structure for P01266
Antigen	Purified human thyroglobulin.
Activity	Ig mg/ml* : 18.6 ELISA Titer**: 1:102,400 (Note: * Determined by radial immunodiffusionfor several lots of ascites. **ELISA is an indirect assay againstthyroglobulin on the solid phase. Titers represent endpoint dilutions that achieveabsorbance values >= 0.1.)
Stabilizer	None
Preservatives	None. Available on request.
Dilutions Instructions	Dilute in PBS or medium which is identical to that used in the assay system.
Product Categories/Family for anti-TG antibody	Hormone and Serum Protein Antibodies
Applications Tested/Suitable for anti-TG antibody	Immunoassay
Application Notes for anti-TG antibody	These antibodies may be used inimmunoassays to detect and quantitatethyroglobulin. Other applications areunder investigation.
Related Product Information for anti-TG antibody	MBS190443 is an antibody targeting TG. Also known as Thyroglobulin (T3/T4) Monoclonal Antibody. Host: Mouse.
Other Notes	Small volumes of anti-TG antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for TG. It may not necessarily be applicable to this product.

NCBI GI #	37174
NCBI GeneID	7038
NCBI Accession #	CAA29104.1
UniProt Primary Accession #	P01266
UniProt Secondary Accession #	O15274; O43899; Q15593; Q15948; Q9NYR1; Q9NYR2; Q9UMZ0; Q9UNY3
UniProt Related Accession #	P01266; Q59GF0; Q9NYD9; Q9NYM1
NCBI Official Full Name	thyroglobulin
NCBI Official Synonym Full Names	thyroglobulin
NCBI Official Symbol	TG
NCBI Official Synonym Symbols	TGN; AITD3; TG
UniProt Protein Name	Thyroglobulin
Protein Family	Thyroglobulin
UniProt Gene Name	TG
UniProt Entry Name	THYG_HUMAN
NCBI Protein Information	thyroglobulin
NCBI Summary for TG	Thyroglobulin (Tg) is a glycoprotein homodimer produced predominantly by the thryroid gland. It acts as a substrate for the synthesis of thyroxine and triiodothyronine as well as the storage of the inactive forms of thyroid hormone and iodine. Thyroglobulin is secreted from the endoplasmic reticulum to its site of iodination, and subsequent thyroxine biosynthesis, in the follicular lumen. Mutations in this gene cause thyroid dyshormonogenesis, manifested as goiter, and are associated with moderate to severe congenital hypothyroidism. Polymorphisms in this gene are associated with susceptibility to autoimmune thyroid diseases (AITD) such as Graves disease and Hashimoto thryoiditis. [provided by RefSeq]
UniProt Comments for TG	TG: Precursor of the iodinated thyroid hormones thyroxine (T4) and triiodothyronine (T3). Defects in TG are the cause of thyroid dyshormonogenesis 3 (TDH3). A disorder due to thyroid dyshormonogenesis, causing large goiters of elastic and soft consistency in the majority of patients. Although the degree of thyroid dysfunction varies considerably among patients with defective thyroglobulin synthesis, patients usually have a relatively high serum free triiodothyronine (T3) concentration with disproportionately low free tetraiodothyronine (T4) level. The maintenance of relatively high free T3 levels prevents profound tissue hypothyroidism except in brain and pituitary, which are dependent on T4 supply, resulting in neurologic and intellectual defects in some cases. Variations in TG are associated with susceptibility to autoimmune thyroid disease type 3 (AITD3). AITDs including Graves disease (GD) and Hashimoto thyroiditis (HT), are among the most common human autoimmune diseases. They are complex diseases, which are caused by an interaction between susceptibility genes and nongenetic factors, such as infection. Belongs to the type-B carboxylesterase/lipase family. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Secreted; Secreted, signal peptide Chromosomal Location of Human Ortholog: 8q24 Cellular Component: extracellular space; extracellular region Molecular Function: hormone activity Biological Process: regulation of myelination; iodide transport; thyroid gland development; hormone biosynthetic process; signal transduction; thyroid hormone metabolic process Disease: Thyroid Dyshormonogenesis 3; Autoimmune Thyroid Disease, Susceptibility To, 3

Research Articles on TG	**1.** The p.A2215D thyroglobulin gene mutation leads to deficient synthesis and secretion of the mutated protein and congenital hypothyroidism with wide phenotype variation. **2.** Case Report: Identification of a neck lump as a lymph node metastasis from an occult contralateral papillary microcarcinoma of the thyroid- key role of thyroglobulin assay in the fine-needle aspirate. **3.** The population living in two areas was exposed to consequences of severe and moderate iodine deficiency **4.** existence of four single nucleotide polymorphisms among Han Chinese, one SNP haplotype with Hashimoto thyroiditis suggests that TG may be a susceptibility gene **5.** Results of our study suggest that thyroglobulin is an autoantigen that is recognized by thyroid MALT lymphoma cells. **6.** the frequencies of genotypes in the TG gene E10, E12, and E33 SNPs were not found to be significantly different in Grave disease patients who developed GD when aged over 40 years when compared with those aged below 40 years **7.** Elevated thyroglobulin levels post surgery are associated with disease recurrence in papillary thyroid carcinoma **8.** analysis of family data did not show linkage of the thyroglobulin gene with autoimmune thyroid diseases nor did analysis of case-control data show association of Tgms2 or SNPs with Graves' disease **9.** There is an association of the IVS30+G>T mutation of the thyroglobulin gene with hypothyroidism. **10.** three single nucleotide polymorphisms were identified within the Tg gene **11.** connection between infection of H. pylori and the occurrence of anti-TPO autoantibodies representing thyroid autoimmunity and gastric parietal cells autoantibodies representing the thyrogastric syndrome **12.** analysis of the recurrence of the p.R277X/p.R1511X compound heterozygous mutation in the TG gene in two unrelated families (one Argentinian and another Brazilian) with congenital hypothyroidism, goiter and impairment of TG synthesis **13.** peptides from autoantigens are also associated to HLA-DR in vivo and therefore may well be involved in the maintenance and the regulation of the autoimmune response **14.** Tg and TgAb negativity at the time of ablation is not a predictive determinant for future recurrent status. **15.** levels of thyroglobulin (Tg) mRNA in the TSH-stimulated lymphocytes were noticeably increased in subjects with thyroid disease suggesting an interesting relationship between production of Tg antigen in peripheral blood and autoimmunity in thyroid disease **16.** Observational study of gene-disease association. (HuGE Navigator) **17.** There is no systematic variation during the menstrual cycle in autoantibodies against thyroid peroxidase, thyroglobulin, and thyrotropin receptor **18.** We have identified the thyroglobulin gene in females with autoimmune thyroid diseases. **19.** expression level of thyroglobulin mRNA in the anaplastic thyroid carcinoma tissue and cell lines was <10(2) times higher than that in the differentiated thyroid carcinomas. **20.** study showed Taiwanese patients with the C/C genotype of E33SNP, smoking, ophthalmopathy & positive TSH-receptor antibodies at the end of the treatment were more likely to have a relapse of Graves' hyperthyroidism after antithyroid medication is withdrawn
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