



Rabbit Anti-TSHR antibody

SL2087R

Product Name:	TSHR
Chinese Name:	促甲状腺素受体抗体
Alias:	hTSHR I; hTSHRI; LGR 3; LGR3; MGC75129; Thyroid adenoma hyperfunctioning; Thyroid carcinoma with thyrotoxicosis; Thyroid Stimulating Hormone Receptor; Thyrotropin Receptor; Thyrotropin receptor I; TSH R; TSHR; Thyroid stimulating hormone receptor; TSHR HUMAN.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Dog,Horse,
Applications:	ELISA=1:500-1000 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	86kDa
Cellular localization:	The cell membrane
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthetic peptide derived from human TSHR:201-300/764<Extracellular>
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed
Product Detail:	The glycoprotein hormone receptor family consists of the luteinizing hormone receptor, the follicle-stimulating hormone receptor, and the thyroid stimulating hormone(TSH) receptor. TSH, which is released from the pituitary gland, binds to the TSH receptor on thyroid cells to control size and function of the thyroid gland (De Felice et al. 2004).

The TSH receptor signals through Gs to elevate intracellular cAMP in the thyroid gland, which regulates iodide uptake, and transcription of thyroglobulin (Tg), thyroid peroxidase (TPO), and sodium-iodide symporter. The TSH receptor also signals Gq and phospholipase C to regulate iodide efflux, H₂O₂ production, and thyroglobulin iodination. Autoimmunity to the TSH receptor causes hyperthyroidism (Graves disease) or hypothyroidism (Hashimoto thyroiditis) when the autoantibodies function as agonists or antagonists, respectively, at the TSH receptor (Rapoport and McLachlan, 2001; Davies et al., 2002). Millipore's cloned human TSH receptor-expressing cell line is made in the Chem-10 host, which supports high levels of recombinant TSH receptor expression on the cell surface and contains high levels of the promiscuous G protein to couple the receptor to the calcium signaling pathway. Thus, the cell line is an ideal tool for screening for antagonists of interactions between TSH and its ligands.

Function:

Receptor for thyrotropin. Plays a central role in controlling thyroid cell metabolism. The activity of this receptor is mediated by G proteins which activate adenylate cyclase. Also acts as a receptor for thyrostimulin (GPA2+GPB5).

Subunit:

Interacts (via the PDZ-binding motif) with SCRIB; regulates TSHR trafficking and function.

Subcellular Location:

Cell membrane; Multi-pass membrane protein.

Tissue Specificity:

Cell membrane; Multi-pass membrane protein.

DISEASE:

Note=Defects in TSHR are found in patients affected by hyperthyroidism with different etiologies. Somatic, constitutively activating TSHR mutations and/or constitutively activating G(s)alpha mutations have been identified in toxic thyroid nodules (TTNs) that are the predominant cause of hyperthyroidism in iodine deficient areas. These mutations lead to TSH independent activation of the cAMP cascade resulting in thyroid growth and hormone production. TSHR mutations are found in autonomously functioning nodules (AFTN), toxic multinodular goiter (TMNG) and hyperfunctioning thyroid adenomas (HTA). TMNG encompasses a spectrum of different clinical entities, ranging from a single hyperfunctioning nodule within an enlarged thyroid, to multiple hyperfunctioning areas scattered throughout the gland. HTA are discrete encapsulated neoplasms characterized by TSH-independent autonomous growth, hypersecretion of thyroid hormones, and TSH suppression. Defects in TSHR are also a cause of thyroid neoplasms (papillary and follicular cancers).

Note=Autoantibodies against TSHR are directly responsible for the pathogenesis and hyperthyroidism of Graves disease. Antibody interaction with TSHR results in an uncontrolled receptor stimulation.

Hypothyroidism, congenital, non-goitrous, 1 (CHNG1) [MIM:275200]: A non-

autoimmune condition characterized by resistance to thyroid-stimulating hormone (TSH) leading to increased levels of plasma TSH and low levels of thyroid hormone. It presents variable severity depending on the completeness of the defect. Most patients are euthyroid and asymptomatic, with a normal sized thyroid gland. Only a subset of patients develop hypothyroidism and present a hypoplastic thyroid gland. Note=The disease is caused by mutations affecting the gene represented in this entry.

Familial gestational hyperthyroidism (HTFG) [MIM:603373]: A condition characterized by abnormally high levels of serum thyroid hormones occurring during early pregnancy. Note=The disease is caused by mutations affecting the gene represented in this entry.

Hyperthyroidism, non-autoimmune (HTNA) [MIM:609152]: A condition characterized by abnormally high levels of serum thyroid hormones, thyroid hyperplasia, goiter and lack of anti-thyroid antibodies. Typical features of Graves disease such as exophthalmia, myxedema, antibodies anti-TSH receptor and lymphocytic infiltration of the thyroid gland are absent. Note=The disease is caused by mutations affecting the gene represented in this entry.

Similarity:

Belongs to the G-protein coupled receptor 1 family. FSH/LSH/TSH subfamily.
Contains 7 LRR (leucine-rich) repeats.

SWISS:

P16473

Gene ID:

7253

Database links:

[Entrez Gene: 7253](#)Human

[Omim: 603372](#)Human

[SwissProt: P16473](#)Human

[Unigene: 123078](#)Human

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

TSHR是垂体前叶嗜碱细胞分泌的一种glycoprotein, 直接作用于甲状腺, 并能影响其结构功能。该抗体主要用于垂体Tumour功能性分类的研究。