10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-TSH-Receptor, A-Chain Antibody

Mouse Monoclonal Antibody
Catalog # AH13554

Product Information

Application	IHC-P, IF, FC
Primary Accession	P16473
Other Accession	160411
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG1
Clone Names	SPM223
Calculated MW	86844

Additional Information

Gene ID	7253
Other Names	CHNG1; hTSHRI; LGR3; Thyroid-stimulating hormone receptor; Thyrotropin receptor; Thyrotropin receptor I; TSHR
Application Note	Flow Cytometry (0.5-1ug/million cells); ,Immunofluorescence (1-2ug/ml); ,Immunohistology (Formalin-fixed) (1-2ug/ml for 30 minutes at RT),(Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Tris with 1mM EDTA, pH 9.0, or 10mM Citrate buffer, pH6.0, for 10-20 min followed by cooling at RT for 20 minutes),Optimal dilution for a specific application should be determined.
Format	200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Anti-TSH-Receptor, A-Chain Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

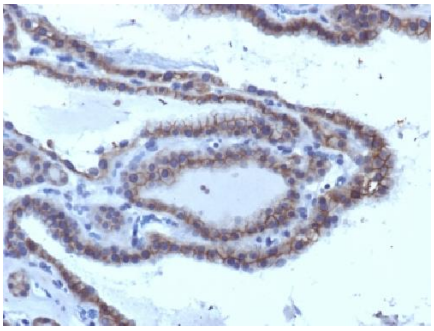
Name	TSHR
Synonyms	LGR3
Function	Receptor for the thyroid-stimulating hormone (TSH) or thyrotropin (PubMed:11847099, PubMed:12045258). Also acts as a receptor for the

	heterodimeric glycoprotein hormone (GPHA2:GPHB5) or thyrostimulin (PubMed:12045258). TSHR is coupled to G(s) proteins and mediates the activation of adenylate cyclase (PubMed:11847099, PubMed:35940205, PubMed:35940204). This leads to the generation of cyclic adenosine monophosphate (cAMP), which in turn activates protein kinase A (PKA). PKA subsequently phosphorylates downstream targets involved in thyroid hormone biosynthesis and secretion, including thyroid peroxidase (TPO) and the sodium/iodide symporter (NIS) (PubMed:27638195). Additionally, plays a central role in controlling thyroid cell metabolism (By similarity).
Cellular Location	Cell membrane; Multi-pass membrane protein. Basolateral cell membrane; Multi-pass membrane protein
Tissue Location	Expressed in thyroide cells (at protein level) (PubMed:11847099). Expressed in the thyroid (PubMed:2610690)

Background

Thyroid-stimulating hormone (TSH, also known as thyrotropin) is a glycoprotein involved in the control of thyroid structure and metabolism, which stimulates the release of the thyroid hormones. TSH is regulated by thyroid hormone (T3) and various retinoid compounds. TSH binds to the thyroid-stimulating hormone receptor (TSHR), which is cleaved into two subunits, A and B, and plays a major role in regulating thyroid function. The third cytoplasmic loop of TSHR has been identified as critical for its role in regulating inositol phosphate and cAMP formation. In Graves disease, an autoimmune disorder, TSHR is activated by autoantibodies, which may be stimulated by the cleavage of the A and B subunits.

Images



Formalin-fixed, paraffin-embedded human Thyroid Carcinoma stained with TSHRA Monoclonal Antibody (SPM223).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.