TSH RECEPTOR Antibody, Mouse Monoclonal Antibody

Catalog Number: 20-783-70281

Related Product Names:
- TSHR antibody; TSHR; LGR3; TSH RECEPTOR
- MOUSE ANTI HUMAN TSH RECEPTOR; Thyrotropin receptor

- Gene Information -

Information in yellow represents specific gene information and does not necessarily represent specific product details. For more information please contact sales@genwaybio.com.

<table>
<thead>
<tr>
<th>Gene Name</th>
<th>TSHR</th>
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<tbody>
<tr>
<td>Gene Name Synonym</td>
<td>LGR3</td>
</tr>
<tr>
<td>Gi #</td>
<td>N/A</td>
</tr>
<tr>
<td>NCBI Acc #:</td>
<td>NP_000360.2</td>
</tr>
<tr>
<td>Swiss Prot Acc #:</td>
<td>P16473</td>
</tr>
<tr>
<td>Length (aa):</td>
<td>N/A</td>
</tr>
<tr>
<td>Mol. Weight (Da):</td>
<td>86830</td>
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<tr>
<td>Chrom Location:</td>
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</table>

- Specificity: TSH RECEPTOR

- NCBI Gene ID: 7253

- Isotype: Specificity: TSH RECEPTOR

- Clone: 2C11

- Immunogen: Recombinant Human TSH receptor

Fusion Partner: Spleen cells from immunised BALB/c mice were fused with cells of the NS1/Ag4.1 mouse myeloma cell line.

- Specificity Note: The thyroid stimulating hormone (TSH) receptor (otherwise known as the thyrotropin receptor) is an important molecule in controlling the growth and function of the normal thyroid.

2C11 recognises both native and denatured TSH receptor (binding to an epitope at the carboxy terminus between amino acids 354 and 359). It does inhibit binding of TSH. No cross reactivity has been observed with related LH and FSH receptors.

This antibody recognises the mutant TSH receptor known as I167N as well as the wild type molecule (2).

- Preparation: Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant

- Buffer Solution: Phosphate buffered saline pH7.2

- Preservative Stabilisers:
  0.09% Sodium Azide

- Suggested Dilution: Suggested Dilution: Immunoprecipitation - 5ug/ml - 10ug/ml
  Western Blotting - 5ug/ml - 10ug/ml

- Source/Host: Mouse

- Clonality: Monoclonal

- Crossreactivity: Human

- Format: Purified

- Storage: Store at +4Cor at -20Cif preferred.
This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

**Stability:** 18 months from date of despatch.

**Shipping:** Products may be shipped on ice pack or dry ice.

### APPLICATIONS for TSHR ANTIBODY:

<table>
<thead>
<tr>
<th>TEST</th>
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<tbody>
<tr>
<td>ELISA, FACS/FC, FA, IP, WB: Tested</td>
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### TESTING: (secondary reagents and protocols)

Not Available

### TSHR ANTIBODY TARGET DESCRIPTION:

**Synonym Names for TSHR antibody:** TSHR; LGR3; MOUSE ANTI HUMAN TSH RECEPTOR; Thyrotropin receptor

**Function:** Receptor for thyrothropin. 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).

**Subcellular Location:** Cell membrane; Multi-pass membrane protein.

**Polymorphism:** The Asp727Glu polymorphism is associated with Graves disease in a Russian population. The Glu727 allele and the heterozygous Asp727Glu genotype are related to higher risk of the disease. The Asp727Glu polymorphism significantly ameliorates G(s)alpha protein activation in the presence of the gain-of-function mutation Ala593Asn although it is functionally inert in the context of the wild-type TSHR.

**Disease:** Defects in TSHR are the cause of congenital hypothyroidism non-goitrous type 1 (CHNG1) [MIM:275200]; also known as congenital hypothyroidism due to TSH resistance. CHNG1 is 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. CHNG1 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.

**Disease:** Defects in TSHR are a cause of hyperthyroidism [MIM:603372]. Various types are known: autosomal dominant non-autoimmune hyperthyroidism (ADNH); sporadic congenital hyperthyroidism (SCH); hyperthyroidism associated with autonomously functioning thyroid nodules (AFTN), toxic multinodular goiter (TMNG) and hyperfunctioning thyroid adenomas (HTA). TMNG encompasses a spectrum of different clinical areas, 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.

**Disease:** Hyperthyroidism in iodine deficient areas is predominately caused by toxic thyroid nodules (TTNs). Somatic, constitutively activating mutations of the thyroid-stimulating hormone receptor (TSHR) and/or constitutively activating G(s)alpha mutations have been identified in TTNs. These mutations lead to TSH-independent activation of the CAMP cascade resulting in thyroid growth and hormone production.

**Disease:** Defects in TSHR are the cause of familial gestational hyperthyroidism (FGH) [MIM:603373].

**Disease:** Defects in TSHR are a cause of thyroid neoplasms (papillary and follicular cancers).

**Disease:** Autoantibodies directed against the TSH receptor are directly responsible for the pathogenesis and hyperthyroidism of Graves disease (GRD) [MIM:275000]. Antibody interaction with the TSH receptor results in an uncontrolled receptor stimulation.

**Disease:** Defects in TSHR are the cause of non-autoimmune hyperthyroidism [MIM:609152]. In a subset of patients with 'congenital Graves disease' the hyperthyroidism is not caused by antithyroid antibodies, but rather by mutations in TSHR. The thyroid gland is enlarged in most patients with non-autoimmune hyperthyroidism, but features of Graves disease, such as thyroid-associated ophthalmopathy, pretibial myxedema, lymphocytic infiltration of the thyroid, and thyroid antibodies, are absent. Hyperthyroidism occurred at any time from the neonatal period to adulthood.
**Similarity:** Belongs to the G-protein coupled receptor 1 family. FSH/LSH/TSH subfamily [view classification].

**Similarity:** Contains 6 LRR (leucine-rich) repeats.

TSH RECEPTOR reacts with human.

**OMIM:**
- 275000; phenotype. [NCBI / EBI]
- 275200; phenotype. [NCBI / EBI]
- 603372; gene+phenotype. [NCBI / EBI]
- 603373; phenotype. [NCBI / EBI]
- 609152; phenotype. [NCBI / EBI]

**Pathways:**
KEGG pathway: [**Neuroactive ligand-receptor** interaction 04080]

**BACKGROUND REFERENCES for TSHR ANTIBODY:**

Background references for antibody target are not specific to GenWay products


**Order Confirmation:** Sales order confirmations are sent out upon the receipt of all orders. Please contact GenWay if you do not receive a confirmation within 1 business day of submitting your order.

**Precautions:** TSHR antibody is for in vitro research use only. Not for use in diagnostics or therapeutic procedures.

**Important Notes:** During shipment, small volumes of TSHR antibody vial. For products with volumes of 200 µL or less, we recommend gently tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge to dislodge any liquid in the container’s cap. Actual concentration, volume and quantity will be printed on the vial’s label. Please refer to the vials label for this information.

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