

Thyrostimulin Beta Subunit Human, Rabbit Polyclonal Antibody

Product Data Sheet

Source of Antigen: *E.coli*

Host: Rabbit

Cat. No.:

RD181106100 (0.1 mg)

Other names: Thyrostimulin beta subunit, Glycoprotein hormone beta 5, GPHB5, TSH, Glycoprotein hormone beta-5, GPHB5, ZLUT1

Research topic

Others

Preparation

The antibody was raised in rabbits by immunization with the recombinant Human Thyrostimulin beta subunit.

Amino Acid Sequence

The immunization antigen (13.34 kDa) is a protein containing 120 AA of recombinant Human Thyrostimulin beta subunit. N-Terminal His-tag, 14 extra AA (highlighted).

MRGSHHHHHH GMASASSGNL RTFVGCAVRE FTFLAKKPGC RGLRITTDAC WGR CETWEKP ILEPPYIEAH HRVCTYNETK
QVTVKLPNCA PGVDPFYTYP VAIRCDCGAC STATTECETI

Species Reactivity

Human

Not yet tested in other species.

Purification Method

Immunoaffinity chromatography on a column with immobilized recombinant Human Thyrostimulin beta subunit.

Antibody Content

0.1 mg (determined by BCA method, BSA was used as a standard)

Formulation

The antibody is lyophilized in 0.05 M phosphate buffer, 0.1 M NaCl, pH 7.2. **AZIDE FREE.**

Reconstitution

Add 0.1 ml of deionized water and let the lyophilized pellet dissolve completely. Slight turbidity may occur after reconstitution, which does not affect activity of the antibody. In this case clarify the solution by centrifugation.

Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage/Stability

The lyophilized antibody remains stable and fully active until the expiry date when stored at -20°C. Aliquot the product after reconstitution to avoid repeated freezing/thawing cycles and store frozen at -80°C. Reconstituted antibody can be stored at 4°C for a limited period of time; it does not show decline in activity after one week at 4°C.

Expiration

See vial label.

Lot Number

See vial label.

Quality Control Test

Indirect ELISA - to determine titer of the antibody

SDS PAGE - to determine purity of the antibody

Applications

Western blotting

Introduction to the Molecule

Human thyrostimulin ranks among the glycoprotein hormone family. These hormones consist of two subunits, the common alpha- and specific beta-subunits, which associate noncovalently to form a heterodimer. The alpha-subunit combines with four distinct beta-subunits giving rise to four biologically active hormones in human: FSH, LH, TSH, and CG. FSH, LH, and TSH, mainly expressed in the anterior pituitary, are essential for coordinated endocrine regulation in the hypothalamus- pituitary axis and show to activate specific G protein-coupled receptors in the thyroid (TSH receptor) and gonads (LH and FSH receptors), respectively.

The heterodimeric glycoprotein hormones have only been identified in vertebrates and are highly conserved in organisms from primitive rayfin fish (Chondrostei) to human in both primary sequences and functional characteristics.

Corticotroph-derived glycoprotein hormone (CGH), also referred to as thyrostimulin, is a noncovalent heterodimer of glycoprotein hormone alpha 2 (GPHA2) and glycoprotein hormone beta 5 (GPHB5). Recombinant A2/B5 heterodimeric glycoproteins activates human TSH receptors, but not LH and FSH receptors, and shows high affinity to TSH receptors in a radioligand receptor assay. The heterodimer also stimulates cAMP production and thymidine incorporation by cultured thyroid cells and increases serum thyroxine levels in TSH-suppressed rats in vivo. This new heterodimeric glycoprotein hormone was named as thyrostimulin based on its thyroid-stimulating activity. The expression of thyrostimulin in the anterior pituitary known to express TSH receptors suggested a paracrine mechanism.

Note

This product is for research use only.

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