

TSHR (C-20): sc-7817

BACKGROUND

Various hormones are secreted from the anterior pituitary during development and growth, including thyroid-stimulating hormone (TSH, also known as thyrotropin), follicle-stimulating hormone (FSH) and leutinizing hormone (LH). TSH, FSH, and LH are heterodimers formed from a common alpha chain and a unique beta chain. TSH 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.

REFERENCES

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2. Breen, J.J., et al. 1997. The rat TSH β gene contains distinct response elements for regulation by retinoids and thyroid hormone. *Mol. Cell Endocrinol. Metab.* 131: 137-146.
3. Sanders, J., et al. 1997. Understanding the thyrotropin receptor function-structure relationship. *Baillieres Clin. Endocrinol. Metab.* 11: 451-479.
4. Moyle, W.R., et al. 1998. Functional homodimeric glycoprotein hormones: implications for hormone action and evolution. *Chem. Biol.* 5: 241-254.
5. Tanaka, K., et al. 1999. Subunit structure of thyrotrophin receptors expressed on the cell surface. *J. Biol. Chem.* 274: 33979-33984.
6. Sanders, J., et al. 2006. Effects of TSH receptor mutations on binding and biological activity of monoclonal antibodies and TSH. *Thyroid.* 16: 1195-1206.
7. Jeziorowska, A., et al. 2006. A novel mutation in the thyrotropin (thyroid-stimulating hormone) receptor gene in a case of congenital hypothyroidism. *Thyroid.* 16: 1303-1309.

CHROMOSOMAL LOCATION

Genetic locus: TSHR (human) mapping to 14q31.1; Tshr (mouse) mapping to 12 D3.

SOURCE

TSHR (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TSHR of human origin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7817 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TSHR (C-20) is recommended for detection of full length TSHR of human and to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TSHR (C-20) is also recommended for detection of full length TSHR in additional species, including canine.

Suitable for use as control antibody for TSHR siRNA (h): sc-36754, TSHR siRNA (m): sc-36755, TSHR shRNA Plasmid (h): sc-36754-SH, TSHR shRNA Plasmid (m): sc-36755-SH, TSHR shRNA (h) Lentiviral Particles: sc-36754-V and TSHR shRNA (m) Lentiviral Particles: sc-36755-V.

Molecular Weight of intact TSHR: 115 kDa.

Molecular Weight of TSHR A subunit: 62 kDa.

Molecular Weight of TSHR B subunit: 42 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, HeLa whole cell lysate: sc-2200 or human thyroid extract: sc-363782.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.


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Try **TSHR (C-10): sc-515556** or **TSHR (3B12): sc-53542**, our highly recommended monoclonal alternatives to TSHR (C-20).