

TSH β (M-16): sc-7815

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 α chain and a unique β chain. TSH is a glycoprotein involved in the control of thyroid structure and metabolism, which stimulates the release of the thyroid hormones. TSH β is regulated by thyroid hormone (T3) and various retinoid compounds. TSH β binds to the thyroid-stimulating hormone receptor (TSHR), which plays a major role in regulating thyroid function. TSHR is thought to exist in multiple glycosylation states. The third cytoplasmic loop of TSHR has been identified as critical for its role in regulating inositol phosphate and cAMP formation.

REFERENCES

1. Kosugi, S., et al. 1993. Substitutions of different regions of the third cytoplasmic loop of the thyrotropin (TSH) receptor have selective effects on constitutive, TSH-, and TSH receptor autoantibody-stimulated phosphoinositide and 3',5'-cyclic adenosine monophosphate signal generation. *Mol. Endocrinol.* 7: 1009-1020.
2. Graves, P.N., et al. 1996. Multimeric complex formation by the thyrotropin receptor in solubilized thyroid membranes. *Endocrinology* 137: 3915-3920.
3. Sanders, J., et al. 1997. Understanding the thyrotropin receptor function-structure relationship. *Baillieres Clin. Endocrinol. Metab.* 11: 451-479.
4. 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.* 131: 137-146.
5. Moyle, W.R., et al. 1998. Functional homodimeric glycoprotein hormones: implications for hormone action and evolution. *Chem. Biol.* 5: 241-254.

CHROMOSOMAL LOCATION

Genetic locus: TSHB (human) mapping to 1p13.2; Tshb (mouse) mapping to 3 F2.2.

SOURCE

TSH β (M-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TSH β of mouse origin.

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-7815 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

TSH β (M-16) is recommended for detection of TSH β of mouse, rat and human 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).

Suitable for use as control antibody for TSH β siRNA (h): sc-39321, TSH β siRNA (m): sc-39322, TSH β shRNA Plasmid (h): sc-39321-SH, TSH β shRNA Plasmid (m): sc-39322-SH, TSH β shRNA (h) Lentiviral Particles: sc-39321-V and TSH β shRNA (m) Lentiviral Particles: sc-39322-V.

Molecular Weight of TSH β : 17 kDa.

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.

SELECT PRODUCT CITATIONS

1. Lee, E.J., et al. 2005. Pit-1 induces transient differentiation of adult hepatic stem cells into prolactin-producing cells *in vivo*. *Mol. Endocrinol.* 19: 964-971.
2. Sun, Y., et al. 2012. Loss-of-function mutations in IGSF1 cause an X-linked syndrome of central hypothyroidism and testicular enlargement. *Nat. Genet.* 44: 1375-1381.

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.



Try **TSH β (D-6): sc-365801**, our highly recommended monoclonal alternative to TSH β (M-16).