

# TSH $\beta$ (C-16): sc-7813

## 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 $\beta$  is regulated by thyroid hormone (T3) and various retinoid compounds. TSH $\beta$  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 $\beta$  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 $\beta$  (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TSH $\beta$  of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-7813 P, (100  $\mu$ 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.

## RESEARCH USE

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

## APPLICATIONS

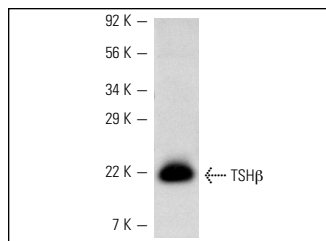
TSH $\beta$  (C-16) is recommended for detection of TSH $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TSH $\beta$  (C-16) is also recommended for detection of TSH $\beta$  in additional species, including equine, canine, bovine, porcine and feline.

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

Molecular Weight of TSH $\beta$ : 17 kDa.

## DATA



TSH $\beta$  (C-16): sc-7813. Western blot analysis of porcine recombinant TSH $\beta$ .

## SELECT PRODUCT CITATIONS

1. Kano, K., et al. 2008. A novel dwarfism with gonadal dysfunction due to loss-of-function allele of the collagen receptor gene, Ddr2, in the mouse. *Mol. Endocrinol.* 22: 1866-1880.
2. Liu, C., et al. 2012. A newly identified TSH $\beta$  splice variant is involved in the pathology of Hashimoto's thyroiditis. *Mol. Biol. Rep.* 39: 10019-10030.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **TSH $\beta$  (D-6): sc-365801**, our highly recommended monoclonal alternative to TSH $\beta$  (C-16).