

TSHR (N-19): sc-7816

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 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

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. 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.

CHROMOSOMAL LOCATION

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

SOURCE

TSHR (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TSHR of human 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-7816 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.

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.

APPLICATIONS

TSHR (N-19) is recommended for detection of full length and A subunit TSHR of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

TSHR (N-19) is also recommended for detection of full length TSHR and A subunit in additional species, including bovine.

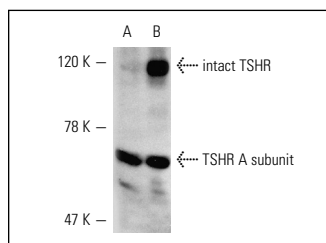
Suitable for use as control antibody for TSHR siRNA (h): sc-36754, TSHR siRNA (m): sc-36755, TSHR shRNA Plasmid (h): sc-36754-SH, TSHR shRNA Plasmid (m): sc-36755-SH, TSHR shRNA (h) Lentiviral Particles: sc-36754-V and TSHR shRNA (m) Lentiviral Particles: sc-36755-V.

Molecular Weight of intact TSHR: 115 kDa.

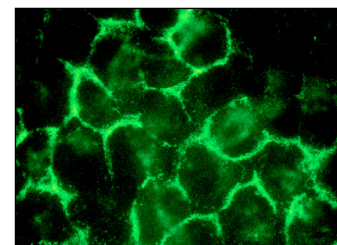
Molecular Weight of TSHR A/B subunit: 62/42 kDa.

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

DATA



TSHR (N-19): sc-7816. Western blot analysis of TSHR expression in IMR-32 (A) and HeLa (B) whole cell lysates. Note absence of intact TSHR in IMR-32.



TSHR (N-19): sc-7816. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Kaneda, T., et al. 2007. An improved Graves' disease model established by using *in vivo* electroporation exhibited long-term immunity to hyperthyroidism in BALB/c mice. *Endocrinology* 148: 2335-2344.
2. Zhang, W., et al. 2009. Presence of thyrotropin receptor in hepatocytes: not a case of illegitimate transcription. *J. Cell. Mol. Med.* 3: 4636-4342
3. Rivas, M., et al. 2009. The DREAM protein is associated with thyroid enlargement and nodular development. *Mol. Endocrinol.* 23: 862-870.
4. Löf, C., et al. 2012. Communication between the calcium and cAMP pathways regulate the expression of the TSH receptor: TRPC2 in the center of action. *Mol. Endocrinol.* 26: 2046-2057.

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Try **TSHR (C-10): sc-515556** or **TSHR (3B12): sc-53542**, our highly recommended monoclonal alternatives to TSHR (N-19).