

TRH-R2 (R-20): sc-11584

BACKGROUND

Thyrotrophin-releasing hormone (TRH) is a hypothalamic tripeptide that stimulates, via its receptor in the anterior pituitary gland, the release of thyrotrophin (TSH) and prolactin. The TRH receptors, TRH-R1 and TRH-R2, are G protein-coupled proteins containing seven transmembrane domains and other conserved regions. In rat, two isoforms exist, TRH-R (412) and TRH-R (387), that differ at their carboxy termini. TRH receptors are distributed throughout the central and peripheral nervous systems and are present in a variety of tissues. TRH-R2 displays 50% homology to TRH-R1 and is more restricted to the central nervous system than TRH-R1. Mutation in the TRH receptor gene is associated with isolated central hypothyroidism, a rare disorder characterized by insufficient TSH secretion resulting in low levels of thyroid hormones.

REFERENCES

- Eidne, K.A., Zabavnik, J., Peters, T., Yoshida, S., Anderson, L. and Taylor, P.L. 1991. Cloning, sequencing and tissue distribution of a candidate G protein-coupled receptor from rat pituitary gland. *FEBS Lett.* 292: 243-248.
- de la Pena, P., Delgado, L.M., del Camino, D. and Barros, F. 1992. Two isoforms of the thyrotrophin-releasing hormone receptor generated by alternative splicing have indistinguishable functional properties. *J. Biol. Chem.* 267: 25703-25708.
- Duthie, S.M., Taylor, P.L., Anderson, L., Cook, J. and Eidne, K.A. 1993. Cloning and functional characterisation of the human TRH receptor. *Mol. Cell Endocrinol.* 95: R11-15.
- Zabavnik, J., Arbuthnott, G. and Eidne, K.A. 1993. Distribution of thyrotrophin-releasing hormone receptor messenger RNA in rat pituitary and brain *Neuroscience* 53: 877-887.
- Cao, J., O'Donnell, D., Vu, H., Payza, K., Pou, C., Godbout, C., Jakob, A., Pelletier, M., Lembo, P., Ahmad, S. and Walker, P. 1998. Cloning and characterization of a cDNA encoding a novel subtype of rat thyrotrophin-releasing hormone receptor. *J. Biol. Chem.* 273: 32281-32287.
- Heuer, H., Schafer, M.K. and Bauer, K. 1999. Thyrotrophin-releasing hormone (TRH), a signal peptide of the central nervous system. *Acta. Med. Austriaca* 26: 119-122.
- Mitsuma, T., Rhue, N., Kayama, M., Mori, Y., Yokoi, Y., Adachi, K., Ikai, R., Nakamura, A., Nakayashiki, A., et al. 1999. Distribution of thyrotrophin releasing hormone receptor type 2 in rats: an immunohistochemical study. *Endocr. Regul.* 33: 135-139.
- O'Dowd, B.F., Lee, D.K., Huang, W., Nguyen, T., Cheng, R., Liu, Y., Wang, B., Gershengorn, M.C. and George, S.R. 2000. TRH-R2 exhibits similar binding and acute signaling but distinct regulation and anatomic distribution compared with TRH-R1. *Mol. Endocrinol.* 14: 183-193.
- Collu, R. 2000. Genetic aspects of central hypothyroidism. *J. Endocrinol. Invest.* 23: 125-134.

SOURCE

TRH-R2 (R-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TRH-R2 of rat origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-11584 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TRH-R2 (R-20) is recommended for detection of TRH-R2 of 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).

Suitable for use as control antibody for TRH-R2 siRNA (m): sc-154638, TRH-R2 shRNA Plasmid (m): sc-154638-SH and TRH-R2 shRNA (m) Lentiviral Particles: sc-154638-V.

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.

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.