

# TRH-R1 (I-20): sc-11574

## 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., et al. 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., et al. 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., et al. 1993. Cloning and functional characterisation of the human TRH receptor. *Mol. Cell. Endocrinol.* 95: R11-R15.
- Zabavnik, J., et al. 1993. Distribution of thyrotrophin-releasing hormone receptor messenger RNA in rat pituitary and brain *Neuroscience* 53: 877-887.
- Cao, J., et al. 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., et al. 1999. Thyrotrophin-releasing hormone (TRH), a signal peptide of the central nervous system. *Acta Med. Austriaca* 26: 119-122.

## CHROMOSOMAL LOCATION

Genetic locus: TRHR (human) mapping to 8q23.1; Trhr (mouse) mapping to 15 B3.2.

## SOURCE

TRH-R1 (I-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TRH-R1 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-11574 P, (100 µg 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

TRH-R1 (I-20) is recommended for detection of all TRH-R1 isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

TRH-R1 (I-20) is also recommended for detection of all TRH-R1 isoforms in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TRH-R1 siRNA (h): sc-106635, TRH-R1 siRNA (m): sc-154637, TRH-R1 siRNA (r): sc-270456, TRH-R1 shRNA Plasmid (h): sc-106635-SH, TRH-R1 shRNA Plasmid (m): sc-154637-SH, TRH-R1 shRNA Plasmid (r): sc-270456-SH, TRH-R1 shRNA (h) Lentiviral Particles: sc-106635-V, TRH-R1 shRNA (m) Lentiviral Particles: sc-154637-V and TRH-R1 shRNA (r) Lentiviral Particles: sc-270456-V.

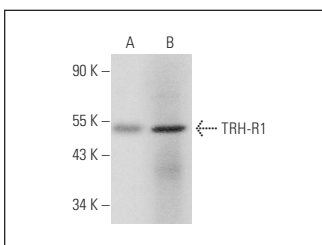
Molecular Weight of TRH-R1: 41 kDa.

Positive Controls: human liver extract: sc-363766, Jurkat whole cell lysate: sc-2204 or mouse brain extract: sc-2253.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



TRH-R1 (I-20): sc-11574. Western blot analysis of TRH-R1 expression in Jurkat whole cell lysate (A) and human liver tissue extract (B).

## RESEARCH USE

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

## PROTOCOLS

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