

**TRH-DE (N-18): sc-83177**

The Power to Question

**BACKGROUND**

TRH-DE (thyrotropin-releasing hormone degrading enzyme), also known as PAP-II or PGPEP2, is a 1,024 amino acid single-pass type II membrane protein that belongs to the peptidase M1 family and is expressed predominately in brain. Existing as a disulfide-linked homodimer, TRH-DE uses zinc as a cofactor to catalyze the cleavage and subsequent inactivation of TRH. Human TRH-DE shares 96% sequence identity with its rat counterpart, suggesting a conserved role between species. The gene encoding TRH-DE maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and Trisomy 12p, which causes facial developmental defects and seizure disorders.

**REFERENCES**

1. Schauder, B., Schomburg, L., Köhrle, J. and Bauer, K. 1994. Cloning of a cDNA encoding an ectoenzyme that degrades thyrotropin-releasing hormone. *Proc. Natl. Acad. Sci. USA* 91: 9534-9538.
2. Heuer, H., Schäfer, M.K. and Bauer, K. 1998. The thyrotropin-releasing hormone-degrading ectoenzyme: the third element of the thyrotropin-releasing hormone-signaling system. *Thyroid* 8: 915-920.
3. Schomburg, L., Turwitt, S., Prescher, G., Lohmann, D., Horsthemke, B. and Bauer, K. 1999. Human TRH-degrading ectoenzyme cDNA cloning, functional expression, genomic structure and chromosomal assignment. *Eur. J. Biochem.* 265: 415-422.
4. Bödeker, H., Keim, V., Fiedler, F., Dagorn, J.C. and Iovanna, J.L. 1999. PAP I interacts with itself, PAP II, PAP III, and lithostathine/regalalpha. *Mol. Cell Biol. Res. Commun.* 2: 150-154.
5. Papadopoulos, T., Kelly, J.A. and Bauer, K. 2001. Mutational analysis of the thyrotropin-releasing hormone-degrading ectoenzyme. similarities and differences with other members of the M1 family of aminopeptidases and thermolysin. *Biochemistry* 40: 9347-9355.

**CHROMOSOMAL LOCATION**

Genetic locus: TRHDE (human) mapping to 12q21.1; Trhde (mouse) mapping to 10 D2.

**SOURCE**

TRH-DE (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of TRH-DE of human 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-83177 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

**APPLICATIONS**

TRH-DE (N-18) is recommended for detection of TRH-DE 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-DE (N-18) is also recommended for detection of TRH-DE in additional species, including equine, bovine and porcine.

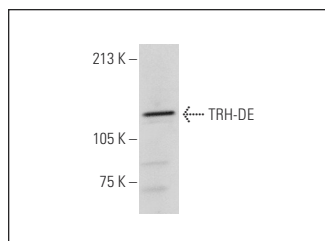
Suitable for use as control antibody for TRH-DE siRNA (h): sc-76728, TRH-DE siRNA (m): sc-76729, TRH-DE shRNA Plasmid (h): sc-76728-SH, TRH-DE shRNA Plasmid (m): sc-76729-SH, TRH-DE shRNA (h) Lentiviral Particles: sc-76728-V and TRH-DE shRNA (m) Lentiviral Particles: sc-76729-V.

Molecular Weight of TRH-DE: 117 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

**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-DE (N-18): sc-83177. Western blot analysis of TRH-DE expression in Jurkat whole cell lysate.

**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](http://www.scbt.com) or our catalog for detailed protocols and support products.