

Trehalase (N-15): sc-241089

BACKGROUND

Trehalase, also known as TREH, TREA or α , α -trehalose glucohydrolase, is a 583 amino acid protein belonging to the glycosyl hydrolase 37 family. Localizing to cell membrane and lipid-anchor, Trehalase is expressed in kidney, liver, and small intestine. Trehalase hydrolyses ingested trehalose, a disaccharide formed by two glucose molecules found mainly in insects, fungi, and plants, into cellular substrate glucose. Isolated trehalose intolerance due to deficiencies of Trehalase can result in gastrointestinal symptoms. Trehalase may also be a marker for renal tubular damage, and may contain an N-terminal signal peptide, five potential N-glycosylation sites, and a C-terminal hydrophobic region for glycosylphosphatidylinositol (GPI) attachment. Existing as two alternatively spliced isoforms, the gene encoding Trehalase maps to human chromosome 11q23.3.

REFERENCES

1. Ruf, J., et al. 1990. Rabbit small intestinal trehalase. Purification, cDNA cloning, expression, and verification of glycosylphosphatidylinositol anchoring. *J. Biol. Chem.* 265: 15034-15039.
2. Sasai-Takedatsu, M., et al. 1996. Human trehalase: characterization, localization, and its increase in urine by renal proximal tubular damage. *Nephron* 73: 179-185.
3. Ishihara, R., et al. 1997. Molecular cloning, sequencing and expression of cDNA encoding human trehalase. *Gene* 202: 69-74.
4. Oesterreicher, T.J., et al. 2001. Cloning, characterization and mapping of the mouse trehalase (Treh) gene. *Gene* 270: 211-220.
5. Forcella, M., et al. 2010. A membrane-bound trehalase from *Chironomus riparius* larvae: purification and sensitivity to inhibition. *Glycobiology* 20: 1186-1195.

CHROMOSOMAL LOCATION

Genetic locus: TREH (human) mapping to 11q23.3; Treh (mouse) mapping to 9 A5.2.

SOURCE

Trehalase (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Trehalase of mouse 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-241089 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.

APPLICATIONS

Trehalase (N-15) is recommended for detection of Trehalase 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).

Suitable for use as control antibody for Trehalase siRNA (h): sc-96445, Trehalase siRNA (m): sc-154626, Trehalase shRNA Plasmid (h): sc-96445-SH, Trehalase shRNA Plasmid (m): sc-154626-SH, Trehalase shRNA (h) Lentiviral Particles: sc-96445-V and Trehalase shRNA (m) Lentiviral Particles: sc-154626-V.

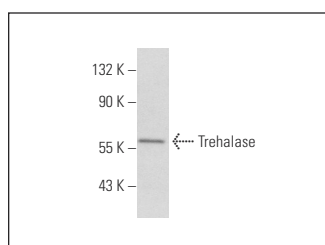
Molecular Weight of Trehalase isoform 1/2: 67/63 kDa.

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



Trehalase (N-15): sc-241089. Western blot analysis of Trehalase expression in Jurkat whole cell lysate.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.