

THTR1 (A-13): sc-27657

BACKGROUND

Humans lack biosynthesis pathways for the micronutrients thiamine and Folate, however, regulation of these vitamins is necessary for normal cellular function. The SLC19A gene family products mediate membrane transport of these molecules across the membrane to meet cellular requirements; in particular, two transporter proteins differentially import and export thiamine. In the liver as well as other tissues, THTR1 is responsible for the cellular accumulation, that is the import, of thiamine. Uptake depends on many factors, including sodium levels, pH, saturation of thiamine, presence of structural analogues such as oxythiamin and amprolium, as well as membrane transport inhibitors like amiloride. The gene encoding THTR1, SLC19A2, is regulated by GKLF, NF-1 and SP-1. Mutations of the SLC19A2 gene cause thiamine deficiency disorders such as thiamine-responsive megaloblastic anemia (TRMA) by interfering with either the functionality or intracellular targeting of THTR1.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Slc19a2 (mouse) mapping to 1 H2.2.

SOURCE

THTR1 (A-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of THTR1 of mouse origin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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-27657 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

THTR1 (A-13) is recommended for detection of THTR1 of mouse and rat 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).

THTR1 (A-13) is also recommended for detection of THTR1 in additional species, including bovine.

Suitable for use as control antibody for THTR1 siRNA (m): sc-108022, THTR1 shRNA Plasmid (m): sc-108022-SH and THTR1 shRNA (m) Lentiviral Particles: sc-108022-V.

Molecular Weight of THTR1: 56 kDa.

Positive Controls: Mouse liver extract: sc-2256 or rat liver extract: sc-2395.

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.

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.