SANTA CRUZ BIOTECHNOLOGY, INC.

THTPA (A-11): sc-514000

SANTA CRUZ® BIOTECHNOLOGY

The Power to Question

BACKGROUND

Thiamine, known more commonly as vitamin B1, is a water soluble chemical compound that is essential for proper neural function and carbohydrate metabolism. THTPA (thiamine triphosphatase), also known as THTP or THTPASE, is a 230 amino acid member of the THTPase family. Localized to the cytoplasm and expressed at low levels in a variety of tissues, including testis, uterus, prostate, bladder, lung and kidney, THTPA is a hydrolase that catalyzes the H_2O-dependent hydrolysis of thiamine triphosphate (THTP) to thiamine diphosphate (THDP), the major form of thiamine within the cell. THTPA exists as a monomer and functions at an optimal pH of 8.5.

REFERENCES

1. Makarchikov, A.F., et al. 1998. Thiamine triphosphatase activity in bovine kidney. Biochem. Mol. Biol. Int. 46: 115-123.
2. Lakaye, B., et al. 2002. Molecular characterization of a specific thiamine triphosphatase widely expressed in mammalian tissues. J. Biol. Chem. 277: 13771-13777.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611612. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Lakaye, B., et al. 2004. Human recombinant thiamine triphosphatase: purification, secondary structure and catalytic properties. Int. J. Biochem. Cell Biol. 36: 1348-1364.
5. Lakaye, B., et al. 2004. Expression of 25 kDa thiamine triphosphatase in rodent tissues using quantitative PCR and characterization of its mRNA. Int. J. Biochem. Cell Biol. 36: 2032-2041.
6. Lakaye, B., et al. 2004. Thiamine triphosphate, a new signal required for optimal growth of *Escherichia coli* during amino acid starvation. J. Biol. Chem. 279: 17142-17147.

CHROMOSOMAL LOCATION

Genetic locus: THTPA (human) mapping to 14q11.2.

SOURCE

THTPA (A-11) is a mouse monoclonal antibody raised against amino acids 1-54 mapping at the N-terminus of THTPA of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

THTPA (A-11) is available conjugated to agarose (sc-514000 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514000 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514000 PE), fluorescein (sc-514000 FITC), Alexa Fluor® 488 (sc-514000 AF488), Alexa Fluor® 546 (sc-514000 AF546), Alexa Fluor® 594 (sc-514000 AF594) or Alexa Fluor® 647 (sc-514000 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514000 AF680) or Alexa Fluor® 790 (sc-514000 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

THTPA (A-11) is recommended for detection of THTPA of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for THTPA siRNA (h): sc-92211, THTPA shRNA Plasmid (h): sc-92211-SH and THTPA shRNA (h) Lentiviral Particles: sc-92211-V.

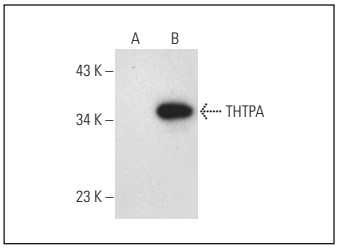
Molecular Weight of THTPA: 25 kDa.

Positive Controls: human THTPA transfected HEK293T whole cell lysate.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



THTPA (A-11): sc-514000. Western blot analysis of THTPA expression in non-transfected (**A**) and human transfected (**B**) HEK293T whole cell lysates.

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 for detailed protocols and support products.