

# THTPA (SQ-30): sc-100353

## 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<sub>2</sub>O-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. 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.
5. Lakaye, B., et al. 2004. Human recombinant thiamine triphosphatase: purification, secondary structure and catalytic properties. *Int. J. Biochem. Cell Biol.* 36: 1348-1364.
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.
7. Czerniecki, J., et al. 2004. Neuronal localization of the 25 kDa specific thiamine triphosphatase in rodent brain. *Neuroscience* 125: 833-840.

## CHROMOSOMAL LOCATION

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

## SOURCE

THTPA (SQ-30) is a mouse monoclonal antibody raised against recombinant THTPA of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## 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

THTPA (SQ-30) is recommended for detection of THTPA of 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), immunohistochemistry (including paraffin-embedded sections) (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.

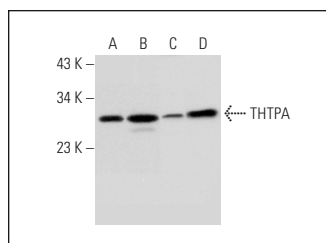
Molecular Weight of THTPA: 25 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HEK293 whole cell lysate: sc-45136 or MCF7 whole cell lysate: sc-2206.

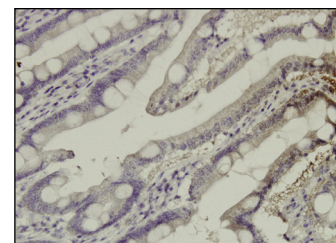
## RECOMMENDED SUPPORT REAGENTS

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, 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 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 (SQ-30): sc-100353. Western blot analysis of THTPA expression in HEK293 (A), ACHN (B), HeLa (C) and MCF7 (D) whole cell lysates.



THTPA (SQ-30): sc-100353. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human small intestine tissue showing cytoplasmic localization.

## PROTOCOLS

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