SANTA CRUZ BIOTECHNOLOGY, INC.

TKTL1/2 (E-8): sc-514513

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Transketolase, a crucial component of the pentose phosphate pathway (PPP), functions as a link between glycolysis and the non-oxidative part of the PPP, allowing the cell to adapt to varying metabolic conditions in response to environmental changes. TKTL1 (transketolase-like 1), also known as TKR or TKT2, is a 596 amino acid protein that localizes to both the nucleus and the cytoplasm and belongs to the Transketolase family. Expressed in both adult and fetal lung, brain, liver, heart and kidney, TKTL1 exists as a homodimer that uses calcium and thiamine pyrophosphate as cofactors to catalyze the conversion of sedoheptulose 7-phosphate and D-glyceraldehyde 3-phosphate to D-ribose 5-phosphate and D-xylulose 5-phosphate. Overexpression of TKTL1, which exists as multiple alternatively spliced isoforms, is associated with diabetic complications and epithelial tumor growth and invasion. TKTL2 (transketolase-like 2) is a 626 amino acid member of the Transketolase family that, like TKTL1, is able to catalyze a specific phosphate transfer reaction.

REFERENCES

1. McCool, B.A., et al. 1993. Cloning of human Transketolase cDNAs and comparison of the nucleotide sequence of the coding region in Wernicke-Korsakoff and non-Wernicke-Korsakoff individuals. J. Biol. Chem. 268: 1397-1404.
2. Coy, J.F., et al. 1996. Molecular cloning of tissue-specific transcripts of a Transketolase-related gene: implications for the evolution of new vertebrate genes. Genomics 32: 309-316.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300044. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Coy, J.F., et al. 2005. Mutations in the Transketolase-like gene TKTL1: clinical implications for neurodegenerative diseases, diabetes and cancer. Clin. Lab. 51: 257-273.

CHROMOSOMAL LOCATION

Genetic locus: TKTL1 (human) mapping to Xq28, TKTL2 (human) mapping to 4q32.2; Tktl1 (mouse) mapping to X A7.3, Tktl2 (mouse) mapping to 8 B3.2.

SOURCE

TKTL1/2 (E-8) is a mouse monoclonal antibody raised against amino acids 215-297 mapping within an internal region of TKTL1 of mouse 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.

TKTL1/2 (E-8) is available conjugated to agarose (sc-514513 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514513 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514513 PE), fluorescein (sc-514513 FITC), Alexa Fluor® 488 (sc-514513 AF488), Alexa Fluor® 546 (sc-514513 AF546), Alexa Fluor® 594 (sc-514513 AF594) or Alexa Fluor® 647 (sc-514513 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514513 AF680) or Alexa Fluor® 790 (sc-514513 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TKTL1/2 (E-8) is recommended for detection of TKTL1 and TKTL2 of mouse, rat and 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), 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).

Molecular Weight of TKTL1: 65 kDa.

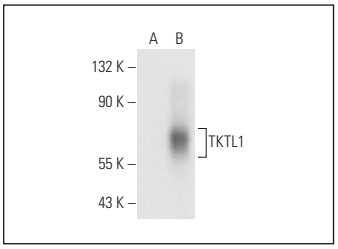
Molecular Weight of TKTL2: 68 kDa.

Positive Controls: TKTL1 (h4): 293T Lysate: sc-171984.

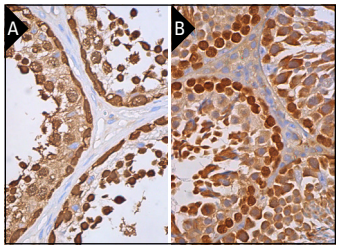
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



TKTL1/2 (E-8): sc-514513. Western blot analysis of TKTL1 expression in non-transfected: sc-117752 (**A**) and human TKTL1 transfected: sc-171984 (**B**) 293T whole cell lysates.



TKTL1/2 (E-8): sc-514513. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis (**A**) and mouse testis (**B**) tissue showing cytoplasmic and nuclear staining of cells in seminiferous ducts.

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.

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