SANTA CRUZ BIOTECHNOLOGY, INC.

Transketolase (H-7): sc-390179

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Transketolase (TK or TKT), a member of the Transketolase family, is a multi-functional protein that plays a role in diabetes, cancer, Alzheimer's disease and Wernicke-Korsakoff's syndrome, a latent genetic neurological disorder. Transketolase is also important for the prevention of hyperglycemia-induced vascular damage. Transketolase is a crucial protein in the pentose phosphate pathway (PPP), where it catalyzes several reactions. In combination with Transaldolase, Transketolase 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. Transketolase activity is detected in small intestine epithelia, liver parenchyma, tongue, cornea and trachea. It is also expressed in the proximal tubules of kidney and in ganglion cells in medulla of the adrenal gland.

CHROMOSOMAL LOCATION

Genetic locus: TKT (human) mapping to 3p21.1; Tkt (mouse) mapping to 14 B.

SOURCE

Transketolase (H-7) is a mouse monoclonal antibody raised against amino acids 261-310 mapping within an internal region of Transketolase of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Transketolase (H-7) is available conjugated to agarose (sc-390179 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390179 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390179 PE), fluorescein (sc-390179 FITC), Alexa Fluor® 488 (sc-390179 AF488), Alexa Fluor® 546 (sc-390179 AF546), Alexa Fluor® 594 (sc-390179 AF594) or Alexa Fluor® 647 (sc-390179 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390179 AF680) or Alexa Fluor® 790 (sc-390179 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Transketolase (H-7) is recommended for detection of Transketolase 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).

Suitable for use as control antibody for Transketolase siRNA (h): sc-45591, Transketolase siRNA (m): sc-45592, Transketolase shRNA Plasmid (h): sc-45591-SH, Transketolase shRNA Plasmid (m): sc-45592-SH, Transketolase shRNA (h) Lentiviral Particles: sc-45591-V and Transketolase shRNA (m) Lentiviral Particles: sc-45592-V.

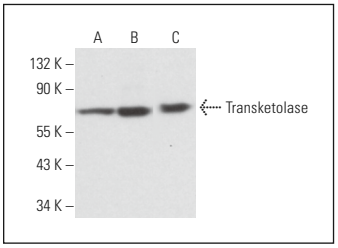
Molecular Weight of Transketolase: 78 kDa.

Positive Controls: c4 whole cell lysate: sc-364186, NIH/3T3 whole cell lysate: sc-2210 or PC-12 cell lysate: sc-2250.

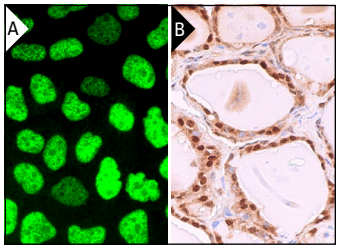
STORAGE

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

DATA



Transketolase (H-7): sc-390179. Western blot analysis of Transketolase expression in c4 (**A**), NIH/3T3 (**B**) and PC-12 (**C**) whole cell lysates.



Transketolase (H-7): sc-390179. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing nuclear and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Miyagi, H., et al. 2018. Modulation of human corneal stromal cell differentiation by hepatocyte growth factor and substratum compliance. Exp. Eye Res. 176: 235-242.
2. James, N.E., et al. 2019. Septin-2 is overexpressed in epithelial ovarian cancer and mediates proliferation via regulation of cellular metabolic proteins. Oncotarget 10: 2959-2972.
3. Liu, C.L., et al. 2020. Targeting the pentose phosphate pathway increases reactive oxygen species and induces apoptosis in thyroid cancer cells. Mol. Cell. Endocrinol. 499: 110595.
4. Han, A., et al. 2021. BAP1 mutant uveal melanoma is stratified by metabolic phenotypes with distinct vulnerability to metabolic inhibitors. Oncogene 40: 618-632.
5. Zecha, J., et al. 2022. Linking post-translational modifications and protein turnover by site-resolved protein turnover profiling. Nat. Commun. 13: 165.
6. Shakya, A., et al. 2023. The NRF2-p97-NRF2 negative feedback loop. Redox Biol. 65: 102839.
7. Ho, S.Y., et al. 2024. Altered purine and pentose phosphate pathway metabolism in uteroplacental insufficiency-induced intrauterine growth restriction offspring rats impair intestinal function. J. Nutr. Biochem. 134: 109737.
8. Wu, D.H., et al. 2024. STING exerts antiviral innate immune response by activating pentose phosphate pathway. Cell Commun. Signal. 22: 599.

RESEARCH USE

For research use only, not for use in diagnostic procedures.