

Transaldolase (C-5): sc-365449

BACKGROUND

Proper cell growth, differentiation and survival relies on a series of enzymes involved in complex redox and metabolic pathways. One of these enzymes, Transaldolase, contributes to the generation of NADPH in the nonoxidative phase of the pentose phosphate pathway (PPP) and is important for maintaining metabolite balance. In conjunction with several other enzymes, Transaldolase works to maintain the mitochondrial transmembrane potential by producing both ribose-5-phosphate and NADPH for use in nucleic acid and lipid biosynthesis. The role of Transaldolase in the PPP of spermatozoa is of significant importance, as deficiencies in Transaldolase are directly related with male infertility due to loss of sperm structure and function. Mutations in the gene encoding Transaldolase are thought to play a role in multiple sclerosis and are the direct cause of hepatosplenomegaly and telangiectases of the skin.

CHROMOSOMAL LOCATION

Genetic locus: TALDO1 (human) mapping to 11p15.5; Taldo1 (mouse) mapping to 7 F5.

SOURCE

Transaldolase (C-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 182-211 within an internal region of Transaldolase of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365449 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Transaldolase (C-5) is recommended for detection of Transaldolase 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Transaldolase (C-5) is also recommended for detection of Transaldolase in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Transaldolase siRNA (h): sc-72369, Transaldolase siRNA (m): sc-72370, Transaldolase shRNA Plasmid (h): sc-72369-SH, Transaldolase shRNA Plasmid (m): sc-72370-SH, Transaldolase shRNA (h) Lentiviral Particles: sc-72369-V and Transaldolase shRNA (m) Lentiviral Particles: sc-72370-V.

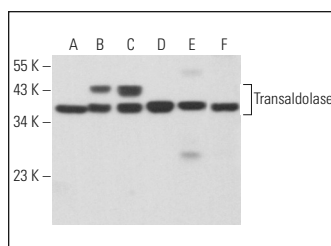
Molecular Weight of Transaldolase: 38 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, U-87 MG cell lysate: sc-2411 or A-431 whole cell lysate: sc-2201.

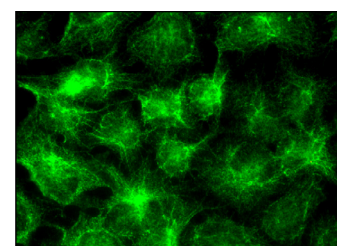
RECOMMENDED SUPPORT REAGENTS

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



Transaldolase (C-5): sc-365449. Western blot analysis of Transaldolase expression in U-87 MG (A), A-431 (B), Hep G2 (C), RAW 264.7 (D) and SP2/0 (E) whole cell lysates and rat colon tissue extract (F).



Transaldolase (C-5): sc-365449. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Gallorini, M., et al. 2015. Activation of the Nrf2-regulated antioxidant cell response inhibits HEMA-induced oxidative stress and supports cell viability. *Biomaterials* 56: 114-128.
- Badolia, R., et al. 2020. The role of non-glycolytic glucose metabolism in myocardial recovery upon mechanical unloading and circulatory support in chronic heart failure. *Circulation* 142: 259-274.
- Wang, X., et al. 2022. lncRNA-encoded pep-AP attenuates the pentose phosphate pathway and sensitizes colorectal cancer cells to Oxaliplatin. *EMBO Rep.* 23: e53140.

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.