

# Transaldolase (S-17): sc-51439

## 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.

## REFERENCES

1. Banki, K., et al. 1994. Cloning and expression of the human gene for Transaldolase. A novel highly repetitive element constitutes an integral part of the coding sequence. *J. Biol. Chem.* 269: 2847-2851.
2. Thorell, S., et al. 2000. The three-dimensional structure of human Transaldolase. *FEBS Lett.* 475: 205-208.
3. Verhoeven, N.M., et al. 2001. Transaldolase deficiency: liver cirrhosis associated with a new inborn error in the pentose phosphate pathway. *Am. J. Hum. Genet.* 68: 1086-1092.
4. Verhoeven, N.M., et al. 2005. A newborn with severe liver failure, cardiomyopathy and Transaldolase deficiency. *J. Inher. Metab. Dis.* 28: 169-179.
5. Selivanov, V.A., et al. 2005. Rapid simulation and analysis of isotopomer distributions using constraints based on enzyme mechanisms: an example from HT29 cancer cells. *Bioinformatics* 21: 3558-3564.

## CHROMOSOMAL LOCATION

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

## SOURCE

Transaldolase (S-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Transaldolase of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-51439 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

Transaldolase (S-17) is recommended for detection of Transaldolase of mouse, rat and 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).

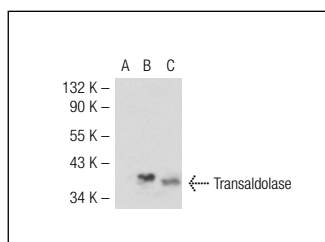
Transaldolase (S-17) is also recommended for detection of Transaldolase in additional species, including equine, canine, bovine, porcine and avian.

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.

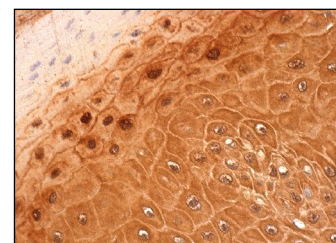
Molecular Weight of Transaldolase: 38 kDa.

Positive Controls: Transaldolase (m3): 293T Lysate: sc-127700, U-87 MG cell lysate: sc-2411 or mouse heart extract: sc-2254.

## DATA



Transaldolase (S-17): sc-51439. Western blot analysis of Transaldolase expression in non-transfected 293T: sc-117752 (A), mouse Transaldolase transfected 293T: sc-127700 (B) and U-87 MG (C) whole cell lysates.



Transaldolase (S-17): sc-51439. Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing nuclear and cytoplasmic staining of squamous epithelial cells.

## SELECT PRODUCT CITATIONS

1. Sarr, O., et al. 2010. Prenatal exposure to maternal low or high protein diets induces modest changes in the adipose tissue proteome of newborn piglets. *J. Anim. Sci.* 88: 1626-1641.

## RESEARCH USE

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



Try **Transaldolase (H-4): sc-166230** or **Transaldolase (C-5): sc-365449**, our highly recommended monoclonal alternatives to Transaldolase (S-17).