

# TAT (D-9): sc-365512

## BACKGROUND

TAT (tyrosine aminotransferase) is a 454 amino acid protein that localizes to mitochondria and belongs to the class-I pyridoxal-phosphate-dependent aminotransferase family. Existing as a homodimer, TAT uses pyridoxal phosphate as a cofactor to catalyze the conversion of L-tyrosine into p-hydroxyphenyl-pyruvate, a reaction that is important in amino acid degradation. Defects in the gene encoding TAT are the cause of tyrosinemia type 2 (TYRO2), an inborn error of metabolism that is associated with elevated levels of tyrosine in blood and urine and is characterized by palmoplantar keratosis, painful corneal ulcers and mental retardation. The gene encoding TAT maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome.

## REFERENCES

- Andersson, S.M. 1982. Induction of cytosolic tyrosine aminotransferase by dexamethasone in organ culture of fetal human liver. *Early Hum. Dev.* 6: 165-169.
- Rettenmeier, R., et al. 1990. Isolation and characterization of the human tyrosine aminotransferase gene. *Nucleic Acids Res.* 18: 3853-3861.
- Natt, E., et al. 1992. Point mutations in the tyrosine aminotransferase gene in tyrosinemia type II. *Proc. Natl. Acad. Sci. USA* 89: 9297-9301.
- Hühn, R., et al. 1998. Novel and recurrent tyrosine aminotransferase gene mutations in tyrosinemia type II. *Hum. Genet.* 102: 305-313.
- Rehman, K.K., et al. 2004. Tyrosine aminotransferase and  $\gamma$ -glutamyl transferase activity in human fetal hepatocyte primary cultures under proliferative conditions. *Cell Biochem. Funct.* 22: 89-96.
- Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 276600. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: TAT (human) mapping to 16q22.2; Tat (mouse) mapping to 8 D3.

## SOURCE

TAT (D-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 289-313 within an internal region of TAT of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> 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-365512 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

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

## APPLICATIONS

TAT (D-9) is recommended for detection of TAT of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

TAT (D-9) is also recommended for detection of TAT in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for TAT siRNA (h): sc-93382, TAT siRNA (m): sc-154082, TAT shRNA Plasmid (h): sc-93382-SH, TAT shRNA Plasmid (m): sc-154082-SH, TAT shRNA (h) Lentiviral Particles: sc-93382-V and TAT shRNA (m) Lentiviral Particles: sc-154082-V.

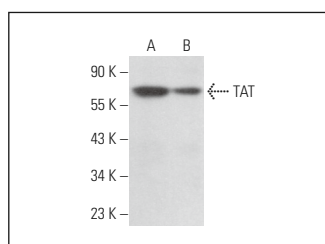
Molecular Weight of TAT: 50 kDa.

Positive Controls: TAT (m7): 293T Lysate: sc-123923, Hep G2 cell lysate: sc-2227 or MDA-MB-231 cell lysate: sc-2232.

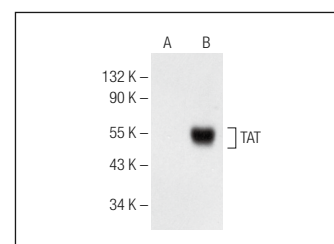
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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



TAT (D-9): sc-365512. Western blot analysis of TAT expression in Hep G2 (A) and MDA-MB-231 (B) whole cell lysates.



TAT (D-9): sc-365512. Western blot analysis of TAT expression in non-transfected: sc-117752 (A) and mouse TAT transfected: sc-123923 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Yu, Y.B., et al. 2018. Differentiation of umbilical cord mesenchymal stem cells into hepatocytes in comparison with bone marrow mesenchymal stem cells. *Mol. Med. Rep.* 18: 2009-2016.

## RESEARCH USE

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