

KAT I (m): 293T Lysate: sc-127032

BACKGROUND

Kynurenine aminotransferases KAT I, KAT II and KAT III belong to the class-I pyridoxal-phosphate-dependent aminotransferase family. KAT I is a cytoplasmic protein involved in glutamine catabolism. KAT I functions in the catalysis of the transamination of L-tryptophan to form kynurenic acid, a neuroprotective and anticonvulsant metabolite of tryptophan. Kynurenic acid is involved in synaptic transmission and has been implicated in a number of neurological disorders including schizophrenia and Huntington's disease. KAT I also functions in the metabolism of cysteine conjugates in some halogenated alkenes and alkanes to form reactive metabolites. KAT I has three isoforms. Isoform 1 is the full length protein, isoform 2 lacks amino acids 68-117 and isoform 3 lacks amino acids 251-422. Based on sequence similarity, KAT I is thought to function as a homodimer.

REFERENCES

1. Baran, H., et al. 1996. Increased kynurenic acid levels and decreased brain kynurenine aminotransferase I in patients with Down syndrome. *Life Sci.* 58: 1891-1899.
2. Tamburin, M., et al. 1999. Kynurenine aminotransferase I (KAT I) isoform gene expression in the rat brain: an *in situ* hybridization study. *Neuroreport* 10: 61-65.
3. Milart, P., et al. 2001. Kynurenine aminotransferase I activity in human placenta. *Placenta* 22: 259-261.
4. Kwok, J.B., et al. 2002. A missense mutation in kynurenine aminotransferase-1 in spontaneously hypertensive rats. *J. Biol. Chem.* 277: 35779-35782.
5. Rejdak, R., et al. 2003. Ontogenic changes of kynurenine aminotransferase I activity and its expression in the chicken retina. *Vision Res.* 43: 1513-1517.
6. Knyihár-Csillik, E., et al. 2004. Decreased expression of kynurenine aminotransferase-I (KAT I) in the substantia nigra of mice after 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP) treatment. *Neuroscience* 126: 899-914.
7. Rossi, F., et al. 2004. Crystal structure of human kynurenine aminotransferase I. *J. Biol. Chem.* 279: 50214-50220.
8. Han, Q., et al. 2004. pH dependence, substrate specificity and inhibition of human kynurenine aminotransferase I. *Eur. J. Biochem.* 271: 4804-4814.
9. Knyihár-Csillik, E., et al. 2006. Effect of 6-hydroxydopamine treatment on kynurenine aminotransferase-I (KAT I) immunoreactivity of neurons and glial cells in the rat substantia nigra. *Acta Neuropathol.* 112: 127-137.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: Ccbl1 (mouse) mapping to 2 B.

PRODUCT

KAT I (m): 293T Lysate represents a lysate of mouse KAT I transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

KAT I (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive KAT I antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

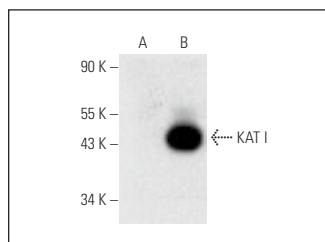
KAT I (B-8): sc-271709 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse KAT I expression in KAT I transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



KAT I (B-8): sc-271709. Western blot analysis of KAT I expression in non-transfected: sc-117752 (A) and mouse KAT I transfected: sc-127032 (B) 293T whole cell lysates.

RESEARCH USE

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