

KAT I (H-11): sc-374590

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-kinurenine 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

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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. Rossi, F., et al. 2004. Crystal structure of human kynurenine aminotransferase I. *J. Biol. Chem.* 279: 50214-50220.
7. Han, Q., et al. 2004. pH dependence, substrate specificity and inhibition of human kynurenine aminotransferase I. *Eur. J. Biochem.* 271: 4804-4814.
8. 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.
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.

CHROMOSOMAL LOCATION

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

SOURCE

KAT I (H-11) is a mouse monoclonal antibody raised against amino acids 270-328 mapping near the C-terminus of KAT I of mouse 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.

APPLICATIONS

KAT I (H-11) is recommended for detection of KAT I of mouse and rat 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).

Suitable for use as control antibody for KAT I siRNA (m): sc-77396, KAT I shRNA Plasmid (m): sc-77396-SH and KAT I shRNA (m) Lentiviral Particles: sc-77396-V.

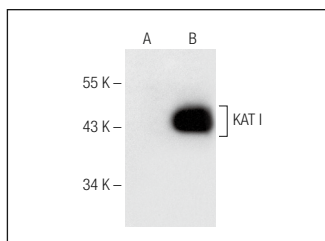
Molecular Weight of KAT I: 48 kDa.

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

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



KAT I (H-11): sc-374590. 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.

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.