SANTA CRUZ BIOTECHNOLOGY, INC.

KAT I (C-16): sc-54013

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

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.

CHROMOSOMAL LOCATION

Genetic locus: CCBL1 (human) mapping to 9q34.11; Ccbl1 (mouse) mapping to 2 B.

SOURCE

KAT I (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of KAT I 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-54013 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

KAT I (C-16) is recommended for detection of KAT I isoforms 1 and 2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

KAT I (C-16) is also recommended for detection of KAT I isoforms 1 and 2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for KAT I siRNA (h): sc-105587, KAT I siRNA (m): sc-77396, KAT I shRNA Plasmid (h): sc-105587-SH, KAT I shRNA Plasmid (m): sc-77396-SH, KAT I shRNA (h) Lentiviral Particles: sc-105587-V and KAT I shRNA (m) Lentiviral Particles: sc-77396-V.

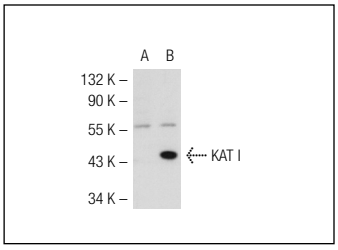
Molecular Weight of KAT I: 48 kDa.

Positive Controls: KAT I (m): 293T Lysate: sc-127032 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



KAT I (C-16): sc-54013. 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.

PROTOCOLS

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