

KAT II (P-17): sc-54020

BACKGROUND

Kynurenine aminotransferases belong to the class-I pyridoxal-phosphate-dependent aminotransferase family and contain the members KAT I, KAT II, and KAT III. Kynurenine aminotransferases belong to the class-I pyridoxal-phosphate-dependent aminotransferase family and contain the members KAT I, KAT II, and KAT III. KAT II is a mitochondrial protein involved in lysine degradation. KAT II is expressed highly in liver, but can also be detected in heart, brain, kidney, pancreas, ovary, and testis. Like KAT I, KAT II functions in the catalysis of the reaction L-2-aminoadipate + 2-oxoglutarate → 2-oxoglutarate + L-glutamate. KAT II is thought to function as a homodimer.

REFERENCES

- Guidetti, P., Okuno, E. and Schwarcz, R. 1998. Characterization of rat brain kynurenine aminotransferases I and II. *J. Neurosci. Res.* 50: 457-465.
- Yu, P., Mosbrook, D.M. and Tagle, D.A. 1999. Genomic organization and expression analysis of mouse kynurenine aminotransferase II, a possible factor in the pathophysiology of Huntington's disease. *Mamm. Genome* 10: 845-852.
- Battaglia, G., Rassoulpour, A., Wu, H.Q., Hodgkins, P.S., Kiss, C., Nicoletti, F. and Schwarcz, R. 2000. Some metabotropic glutamate receptor ligands reduce kynurenate synthesis in rats by intracellular inhibition of kynurenine aminotransferase II. *J. Neurochem.* 75: 2051-2060.
- Kocki, T., Luchowski, P., Luchowska, E., Wielosz, M., Turski, W.A. and Urbanska, E.M. 2003. L-cysteine sulphinate, endogenous sulphur-containing amino acid, inhibits rat brain kynurenic acid production via selective interference with kynurenine aminotransferase II. *Neurosci. Lett.* 346: 97-100.
- Yu, P., Di Prospero, N.A., Sapko, M.T., Cai, T., Chen, A., Melendez-Ferro, M., Du, F., Guidetti, P., Schwarcz, R. and Tagle, D.A. 2004. Biochemical and phenotypic abnormalities in kynurenine aminotransferase II-deficient mice. *Mol. Cell. Biol.* 24: 6919-6930.
- Wejksza, K., Rzeski, W., Okuno, E., Kandefers-Szerszen, M., Albrecht, J. and Turski, W.A. 2005. Demonstration of kynurenine aminotransferases I and II and characterization of kynurenic acid synthesis in oligodendrocyte cell line (OLN-93). *Neurochem. Res.* 30: 963-968.
- Chon, H., Matsumura, H., Koga, Y., Takano, K. and Kanaya, S. 2005. Crystal structure of a human kynurenine aminotransferase II homologue from *Pyrococcus horikoshii* OT3 at 2.20 Å resolution. *Proteins* 61: 685-688.
- Rzeski, W., Kocki, T., Dybel, A., Wejksza, K., Zdzisinska, B., Kandefers-Szerszen, M., Turski, W.A., Okuno, E. and Albrecht, J. 2005. Demonstration of kynurenine aminotransferases I and II and characterization of kynurenic acid synthesis in cultured cerebral cortical neurons. *J. Neurosci. Res.* 80: 677-682.
- Guidetti, P., Hoffman, G.E., Melendez-Ferro, M., Albuquerque, E.X. and Schwarcz, R. 2006. Astrocytic localization of kynurenine aminotransferase II in the rat brain visualized by immunocytochemistry. *Glia* 55: 78-92.

CHROMOSOMAL LOCATION

Genetic locus: AADAT (human) mapping to 4q33; Aadat (mouse) mapping to 8 B3.1.

SOURCE

KAT II (P-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of KAT II 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-54020 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

KAT II (P-17) is recommended for detection of KAT II of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 II (P-17) is also recommended for detection of KAT II in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for KAT II siRNA (h): sc-77358, KAT II siRNA (m): sc-77359, KAT II shRNA Plasmid (h): sc-77358-SH, KAT II shRNA Plasmid (m): sc-77359-SH, KAT II shRNA (h) Lentiviral Particles: sc-77358-V and KAT II shRNA (m) Lentiviral Particles: sc-77359-V.

Molecular Weight of KAT II: 47 kDa.

Positive Controls: 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) 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.

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.


 MONOS
 Satisfation
 Guaranteed

Try **KAT II (G-4): sc-377158** or **KAT II (B-4): sc-365847**, our highly recommended monoclonal alternatives to KAT II (P-17).