SANTA CRUZ BIOTECHNOLOGY, INC.

KAT II (G-4): sc-377158

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-oxoglutaramate + L-glutamate. KAT II is thought to function as a homodimer.

REFERENCES

1. Guidetti, P., et al. 1997. Characterization of rat brain kynurenine aminotransferases I and II. J. Neurosci. Res. 50: 457-465.
2. Yu, P., et al. 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.
3. Battaglia, G., et al. 2000. Some metabotropic glutamate receptor ligands reduce kynurenate synthesis in rats by intracellular inhibition of kynurenine aminotransferase II. J. Neurochem. 75: 2051-2060.
4. Kocki, T., et al. 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.

CHROMOSOMAL LOCATION

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

SOURCE

KAT II (G-4) is a mouse monoclonal antibody raised against amino acids 54-354 mapping within an internal region of KAT II of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

KAT II (G-4) is available conjugated to agarose (sc-377158 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377158 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377158 PE), fluorescein (sc-377158 FITC), Alexa Fluor® 488 (sc-377158 AF488), Alexa Fluor® 546 (sc-377158 AF546), Alexa Fluor® 594 (sc-377158 AF594) or Alexa Fluor® 647 (sc-377158 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377158 AF680) or Alexa Fluor® 790 (sc-377158 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

KAT II (G-4) is recommended for detection of KAT II isoforms 1 and 2 of mouse, rat and human 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), immunohistochemistry (including paraffin-embedded sections) (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 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.

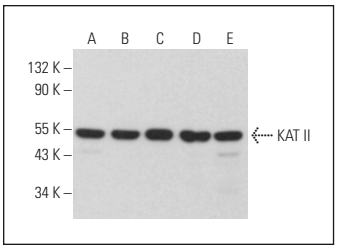
Molecular Weight of KAT II: 47 kDa.

Positive Controls: EOC 20 whole cell lysate: sc-364187, A2058 whole cell lysate: sc-364178 or SH-SY5Y cell lysate: sc-3812.

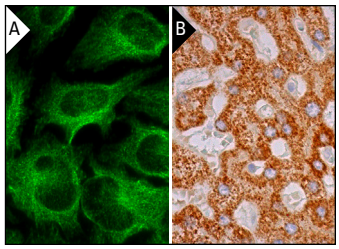
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



KAT II (G-4): sc-377158. Western blot analysis of KAT II expression in EOC 20 (**A**), c4 (**B**), SH-SY5Y (**C**), A2058 (**D**) and C32 (**E**) whole cell lysates.



KAT II (G-4): sc-377158. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes (**B**).

SELECT PRODUCT CITATIONS

1. MacDowell, K.S., et al. 2021. Paliperidone reversion of maternal immune activation-induced changes on brain serotonin and kynurenine pathways. Front. Pharmacol. 12: 682602.

RESEARCH USE

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