SANTA CRUZ BIOTECHNOLOGY, INC.

KAT III (A-9): sc-166922

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Kynurenine aminotransferases belong to the class-I pyridoxal-phosphate-dependent aminotransferase family and contain the members KAT I, KAT II and KAT III. KAT III is widely expressed but is seen in higher abundance in liver, heart, kidney and neuroendocrine tissues. KAT III functions in the trans-amination of kynurenine to form kynurenic acid, a neuroprotective and anti-convulsant 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.

REFERENCES

1. Alberati-Giani, D., et al. 1995. Cloning and characterization of a soluble kynurenine aminotransferase from rat brain: identity with kidney cysteine conjugate β-lyase. J. Neurochem. 64: 1448-1455.
2. Malherbe, P., et al. 1995. Identification of a mitochondrial form of kynure-nine aminotransferase/glutamine transaminase K from rat brain. FEBS Lett. 367: 141-144.
3. Buchli, R., et al. 1996. Cloning and functional expression of a soluble form of kynurenine/α-aminoadipate aminotransferase from rat kidney. J. Biol. Chem. 270: 29330-29335.
4. Baran, H., et al. 1997. Kynurenic acid and kynurenine aminotransferase in heart. Pediatr. Res. 41: 404-410.
5. Fang, J., et al. 2002. Isolation, characterization, and functional expression of kynurenine aminotransferase cDNA from the yellow fever mosquito, *Aedes aegypti*. Insect Biochem. Mol. Biol. 32: 943-950.
6. Mosca, M., et al. 2003. Tissue expression and translational control of rat kynurenine aminotransferase/glutamine transaminase K mRNAs. Biochim. Biophys. Acta 1628: 1-10.
7. Sapko, M.T., et al. 2005. Endogenous kynurenate controls the vulnerability of striatal neurons to quinolinate: Implications for Huntington's disease. Exp. Neurol. 197: 31-40.
8. Hartai, Z., et al. 2005. Kynurenine metabolism in multiple sclerosis. Acta Neurol. Scand. 112: 93-96.
9. Yu, P., et al. 2006. Characterization of kynurenine aminotransferase III, a novel member of a phylogenetically conserved KAT family. Gene 365: 111-118.

CHROMOSOMAL LOCATION

Genetic locus: CCBL2 (human) mapping to 1p36.33; Kyat3 (mouse) mapping to 3 H1.

SOURCE

KAT III (A-9) is a mouse monoclonal antibody raised against amino acids 1-64 mapping at the N-terminus of KAT III of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

KAT III (A-9) is recommended for detection of KAT III 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 III siRNA (h): sc-105589, KAT III siRNA (m): sc-77397, KAT III shRNA Plasmid (h): sc-105589-SH, KAT III shRNA Plasmid (m): sc-77397-SH, KAT III shRNA (h) Lentiviral Particles: sc-105589-V and KAT III shRNA (m) Lentiviral Particles: sc-77397-V.

Molecular Weight (predicted) of KAT III: 51 kDa.

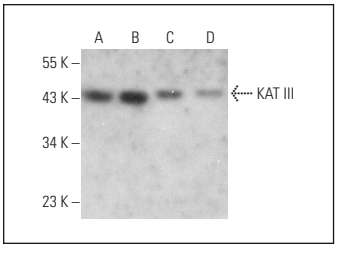
Molecular Weight (observed) of KAT III: 43 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181, F9 cell lysate: sc-2245 or 3T3-L1 cell lysate: sc-2243.

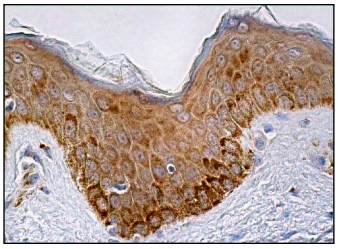
RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecip-itation: 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 III (A-9): sc-166922. Western blot analysis of KAT III expression in NTERA-2 cl.D1 (**A**), MEG-01 (**B**), F9 (**C**) and 3T3-L1 (**D**) whole cell lysates.



KAT III (A-9): sc-166922. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of epidermal cells.

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.