SANTA CRUZ BIOTECHNOLOGY, INC.

KAT III siRNA (m): sc-77397

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 transamination of kynurenine 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.

REFERENCES

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2. `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.
3. Malherbe, P., et al. 1995. Identification of a mitochondrial form of kynurenine aminotransferase/glutamine transaminase K from rat brain. FEBS Lett. 367: 141-144.
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.

CHROMOSOMAL LOCATION

Genetic locus: Ccbl2 (mouse) mapping to 3 H1.

PRODUCT

KAT III siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see KAT III shRNA Plasmid (m): sc-77397-SH and KAT III shRNA (m) Lentiviral Particles: sc-77397-V as alternate gene silencing products.

For independent verification of KAT III (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-77397A, sc-77397B and sc-77397C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

KAT III siRNA (m) is recommended for the inhibition of KAT III expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

KAT III (A-7): sc-365219 is recommended as a control antibody for monitoring of KAT III gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor KAT III gene expression knockdown using RT-PCR Primer: KAT III (m)-PR: sc-77397-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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

PROTOCOLS

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