

Aspartoacylase-3 siRNA (m): sc-141304

BACKGROUND

Aspartoacylase-3 (ACY3), also known as aminoacylase-3, Aspartoacylase-2, acylase III or HCBP1 (hepatitis C virus core-binding protein 1), is a 319 amino acid protein that deacetylates mercapturic acids in the proximal tubules of the kidney, where it is predominantly expressed. A member of the aspA/astE family and Aspartoacylase subfamily, Aspartoacylase-3 localizes to the cytoplasm of S2 and S3 proximal tubules and to the apical domain of S1 proximal tubules. Aspartoacylase-3 is also expressed at low levels in stomach, testis, heart, brain, lung and liver, and may function as an HCV (hepatitis C virus) core binding protein. Aspartoacylase-3 is encoded by a gene that maps to human chromosome 11, which houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that maps to chromosome 11.

REFERENCES

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2. Jira, P.E., et al. 2003. Smith-Lemli-Opitz syndrome and the DHCR7 gene. *Ann. Hum. Genet.* 67: 269-280.
3. Pushkin, A., et al. 2004. Structural characterization, tissue distribution, and functional expression of murine aminoacylase III. *Am. J. Physiol., Cell Physiol.* 286: C848-C856.
4. Schuchman, E.H. 2007. The pathogenesis and treatment of acid sphingomyelinase-deficient Niemann-Pick disease. *J. Inher. Metab. Dis.* 30: 654-663.
5. Bhuiyan, Z.A., et al. 2008. An intronic mutation leading to incomplete skipping of exon-2 in KCNQ1 rescues hearing in Jervell and Lange-Nielsen syndrome. *Prog. Biophys. Mol. Biol.* 98: 319-327.
6. Chen, Y.R., et al. 2009. Identification of a novel protein binding to hepatitis C virus core protein. *J. Gastroenterol. Hepatol.* 24: 1300-1304.

CHROMOSOMAL LOCATION

Genetic locus: *Acy3* (mouse) mapping to 19 A.

PRODUCT

Aspartoacylase-3 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Aspartoacylase-3 shRNA Plasmid (m): sc-141304-SH and Aspartoacylase-3 shRNA (m) Lentiviral Particles: sc-141304-V as alternate gene silencing products.

PROTOCOLS

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

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Aspartoacylase-3 siRNA (m) is recommended for the inhibition of Aspartoacylase-3 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 μ M in 66 μ l. 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

Aspartoacylase-3 (A-5): sc-393862 is recommended as a control antibody for monitoring of Aspartoacylase-3 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Aspartoacylase-3 gene expression knockdown using RT-PCR Primer: Aspartoacylase-3 (m)-PR: sc-141304-PR (20 μ l). 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.