SANTA CRUZ BIOTECHNOLOGY, INC.

Acatin siRNA (m): sc-72430

BACKGROUND

Acatin, also known as AT1, AT-1 or SLC33A1 (solute carrier family 33 member 1), is a multi-pass membrane protein that functions to transport acetyl-CoA into the lumen of the Golgi apparatus. Acatin contains several transmembrane domains and is highly expressed in pancreas, heart, brain, lung, liver, placenta and kidneys. Found in the membrane of both the Golgi and the endoplasmic reticulum (ER), Acatin is required for the O-acetylation of gangliosides; a process that uses acetyl-CoA as the acid donor to produce acetylated sialic acid residues on glycoproteins and gangliosides. There are several different types of sialic acid residues that are found on gangliosides, all of which contribute to the complexity and diversity of sugar chains. When the sialic acid residues are acetylated, the gangliosides participate in pathways such as neural cell differentiation and migration.

REFERENCES

1. Kanamori, A., et al. 1997. Expression cloning and characterization of a cDNA encoding a novel membrane protein required for the formation of O-acetylated ganglioside: a putative acetyl-CoA transporter. Proc. Natl. Acad. Sci. USA 94: 2897-2902.
2. Bora, R.S., et al. 1998. Assignment of a putative acetyl-CoA transporter gene (Acatn) to mouse chromosome band 3E1-E3 by *in situ* hybridization. Cytogenet. Cell Genet. 83: 78-79.
3. Bora, R.S., et al. 2000. Genomic structure and promoter analysis of putative mouse acetyl-CoA transporter gene. FEBS Lett. 473: 169-172.
4. Bora, R.S., et al. 2000. cDNA cloning of putative rat acetyl-CoA transporter and its expression pattern in brain. Cytogenet. Cell Genet. 89: 204-208.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603690. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Hirabayashi, Y., et al. 2004. The acetyl-CoA transporter family SLC33. Pflugers Arch. 447: 760-762.

CHROMOSOMAL LOCATION

Genetic locus: Slc33a1 (mouse) mapping to 3 E1.

PRODUCT

Acatin 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 Acatin shRNA Plasmid (m): sc-72430-SH and Acatin shRNA (m) Lentiviral Particles: sc-72430-V as alternate gene silencing products.

For independent verification of Acatin (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-72430A, sc-72430B and sc-72430C.

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 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

Acatin siRNA (m) is recommended for the inhibition of Acatin 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

Acatin (36-X): sc-101305 is recommended as a control antibody for monitoring of Acatin 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 Acatin gene expression knockdown using RT-PCR Primer: Acatin (m)-PR: sc-72430-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.