SANTA CRUZ BIOTECHNOLOGY, INC.

ASAH3L siRNA (m): sc-141289

BACKGROUND

ASAH3L (acylsphingosine deacylase 3-like), also known as ACER2 (alkaline ceramidase 2) or ALKCDase2, is a 275 amino acid multi-pass membrane protein that contains seven putative transmembrane domains and belongs to the alkaline ceramidase family. Encoded by a gene that maps to human chromosome 9p22.1, ASAH3L exists as three alternatively spliced isoforms and is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, fruit fly, mosquito and *Caenorhabditis elegans*. ASAH3L is highly expressed in placenta and epidermis, with significantly lower expression in brain, heart, skeletal muscle, thymus, spleen, kidney, liver and lung, and localizes to Golgi apparatus. ASAH3L hydrolyzes sphingolipid ceramide into sphingosine and free fatty acid, regulates maturation of integrin β-1 by governing sphingosine generation in the Golgi complex and suppresses cell adhesion by reducing integrin β-1 in cell surfaces. ASAH3L may also be involved in cell proliferation and apoptosis.

REFERENCES

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3. Mao, C. and Obeid, L.M. 2008. Ceramidases: regulators of cellular responses mediated by ceramide, sphingosine, and sphingosine-1-phosphate. Biochim. Biophys. Acta 1781: 424-434.
4. Sun, W., et al. 2009. Alkaline ceramidase 2 regulates β1 integrin maturation and cell adhesion. FASEB J. 23: 656-666.
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6. Xu, R., et al. 2010. Role of alkaline ceramidases in the generation of sphingosine and its phosphate in erythrocytes. FASEB J. 24: 2507-2515.
7. Hu, W., et al. 2010. Alkaline ceramidase 3 (ACER3) hydrolyzes unsaturated long-chain ceramides, and its down-regulation inhibits both cell proliferation and apoptosis. J. Biol. Chem. 285: 7964-7976.
8. Sun, W., et al. 2010. Substrate specificity, membrane topology, and activity regulation of human alkaline ceramidase 2 (ACER2). J. Biol. Chem. 285: 8995-9007.
9. Mao, Z., et al. 2010. Alkaline ceramidase 2 (ACER2) and its product dihydrosphingosine mediate the cytotoxicity of N-(4-hydroxyphenyl)retinamide in tumor cells. J. Biol. Chem. 285: 29078-29090.

CHROMOSOMAL LOCATION

Genetic locus: Acer2 (mouse) mapping to 4 C4.

PROTOCOLS

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

PRODUCT

ASAH3L 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ASAH3L shRNA Plasmid (m): sc-141289-SH and ASAH3L shRNA (m) Lentiviral Particles: sc-141289-V as alternate gene silencing 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

ASAH3L siRNA (m) is recommended for the inhibition of ASAH3L 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ASAH3L gene expression knockdown using RT-PCR Primer: ASAH3L (m)-PR: sc-141289-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.