SANTA CRUZ BIOTECHNOLOGY, INC.

AADACL1 siRNA (m): sc-140728

BACKGROUND

The assembly of very-low-density lipoproteins (VLDLs) in the secretory apparatus of the hepatocyte relies on the mobilization of triacylglycerol (TAG) from the cytosolic pool by lipolysis and re-esterification. However, some of the re-esterified TAG products are returned to the cytosolic pool in the liver, which protects vulnerable body tissues from excess lipotoxic non-esterified fatty acids in the plasma. Some of the lipases involved in this process include arylacetamide deacetylase (AADAC) and its related proteins AADACL1 and AADACL2. AADAC, a single pass type II membrane protein of the endoplasmic reticulum, is expressed in hepatocytes, intestinal mucosal cells, pancreas and adrenal gland. It plays an important role in the metabolic activation of arylamine substrates to ultimate carcinogens. AADACL1 hydrolyzes the metabolic intermediate 2-acetyl monoalkylglycerol, and its inactivation results in disruption of ether lipid metabolism in cancer cells and impaired cell migration and tumor growth.

REFERENCES

1. Probst, M.R., Jenö, P. and Meyer, U.A. 1991. Purification and characterization of a human liver arylacetamide deacetylase. Biochem. Biophys. Res. Commun. 177: 453-459.
2. Probst, M.R., Beer, M., Beer, D., Jenö, P., Meyer, U.A. and Gasser, R. 1994. Human liver arylacetamide deacetylase. Molecular cloning of a novel esterase involved in the metabolic activation of arylamine carcinogens with high sequence similarity to hormone-sensitive lipase. J. Biol. Chem. 269: 21650-21656.
3. Yamazaki, K., Kusano, K., Tadano, K. and Tanaka, I. 1997. Radiation hybrid mapping of human arylacetamide deacetylase (AADAC) locus to chromosome 3. Genomics 44: 248-250.
4. Trickett, J.I., Patel, D.D., Knight, B.L., Saggerson, E.D., Gibbons, G.F. and Pease, R.J. 2001. Characterization of the rodent genes for arylacetamide deacetylase, a putative microsomal lipase, and evidence for transcriptional regulation. J. Biol. Chem. 276: 39522-39532.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 600338. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Nceh1 (mouse) mapping to 3 A3.

PRODUCT

AADACL1 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 AADACL1 shRNA Plasmid (m): sc-140728-SH and AADACL1 shRNA (m) Lentiviral Particles: sc-140728-V as alternate gene silencing products.

For independent verification of AADACL1 (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-140728A, sc-140728B and sc-140728C.

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

AADACL1 siRNA (m) is recommended for the inhibition of AADACL1 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 AADACL1 gene expression knockdown using RT-PCR Primer: AADACL1 (m)-PR: sc-140728-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.