

ACSL6 siRNA (m): sc-60624

BACKGROUND

Acyl-CoA synthetases, also known as long-chain fatty-acid CoA synthases (FACL) or palmitoyl-CoA ligases, include ACSL1-6, which are all single-pass membrane proteins localizing to the mitochondrion, microsome or peroxisome. ACSL proteins are important for synthesis of cellular lipids and for β -oxidation degradation. Specifically, ACSL proteins catalyze the activation of long-chain fatty acids to acyl-CoAs, which can be metabolized to form CO₂, triacylglycerol (TAG), phospholipids (PL) and cholesteryl esters (CE). ACSL6 has been shown to be an ETV6 fusion partner gene in a recurrent t(5;12)(q31;p13) translocation in a patient with refractory anemia with excess blasts (RAEB) with basophilia, a patient with acute myelogenous leukemia (AML) with eosinophilia, and a patient with acute eosinophilic leukemia (AEL).

REFERENCES

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2. Malhotra, K.T., Malhotra, K., Lubin, B.H. and Kuypers, F.A. 2000. Identification and molecular characterization of acyl-CoA synthetase in human erythrocytes and erythroid precursors. *Biochem. J.* 344: 135-143.
3. Muoio, D.M., Lewin, T.M., Wiedmer, P. and Coleman, R.A. 2001. Acyl-CoAs are functionally channeled in liver: potential role of acyl-CoA synthetase. *Am. J. Physiol. Endocrinol. Metab.* 279: 1366-1373.
4. Coleman, R.A., Lewin, T.M., Van Horn, C.G. and Gonzalez-Baró, M.R. 2002. Do long-chain acyl-CoA synthetases regulate fatty acid entry into synthetic versus degradative pathways? *J. Nutr.* 132: 2123-2126.
5. Qiao, S. and Tuohimaa, P. 2004. The role of long-chain fatty-acid-CoA ligase 3 of prostate cancer LNCaP cell growth. *Biochem. Biophys. Res. Commun.* 319: 358-368.

CHROMOSOMAL LOCATION

Genetic locus: *Acsf6* (mouse) mapping to 11 B1.3.

PRODUCT

ACSL6 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ACSL6 shRNA Plasmid (m): sc-60624-SH and ACSL6 shRNA (m) Lentiviral Particles: sc-60624-V as alternate gene silencing products.

For independent verification of ACSL6 (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-60624A, sc-60624B and sc-60624C.

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

ACSL6 siRNA (m) is recommended for the inhibition of ACSL6 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ACSL6 gene expression knockdown using RT-PCR Primer: ACSL6 (m)-PR: sc-60624-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.