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SANTA CRUZ BIOTECHNOLOGY, INC.

LPAAT-δ siRNA (m): sc-155917

BACKGROUND

LPAAT-δ (lysophosphatidic acid acyltransferase δ), also known as AGPAT4 (1-acylglycerol-3-phosphate O-acyltransferase 4) or 1-acyl-sn-glycerol-3-phosphate acyltransferase δ, is a 378 amino acid multi-pass membrane protein that belongs to the 1-acyl-sn-glycerol-3-phosphate acyltransferase family. By incorporating an acyl moiety at the sn-2 position of the glycerol backbone, LPAAT-δ converts lysophosphatidic acid (LPA) into phosphatidic acid. LPAAT-δ contains an HXXXXD motif, which is essential for acyltransferase activity and may constitute the binding site for the phosphate moiety of the glycerol-3-phosphate. The gene that encodes LPAAT-δ consists of more than 144,000 bases and maps to human chromosome 6q26.

REFERENCES

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4. Harel, T., et al. 2005. COL11A2 mutation associated with autosomal recessive Weissenbacher-Zweymuller syndrome: molecular and clinical overlap with otospondylomegaepiphyseal dysplasia (OSMED). Am. J. Med. Genet. A 132A: 33-35.
5. Lu, B., et al. 2005. Cloning and characterization of murine 1-acyl-sn-glycerol 3-phosphate acyltransferases and their regulation by PPARα in murine heart. Biochem. J. 385: 469-477.
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7. Fan, J., et al. 2010. Linkage disequilibrium mapping of the chromosome 6q21-22.31 bipolar I disorder susceptibility locus. Am. J. Med. Genet. B Neuropsychiatr. Genet. 153B: 29-37.

CHROMOSOMAL LOCATION

Genetic locus: Agpat4 (mouse) mapping to 17 A1.

PRODUCT

LPAAT-δ siRNA (m) is a pool of 2 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 LPAAT-δ shRNA Plasmid (m): sc-155917-SH and LPAAT-δ shRNA (m) Lentiviral Particles: sc-155917-V as alternate gene silencing products.

For independent verification of LPAAT-δ (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-155917A and sc-155917B.

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

LPAAT-δ siRNA (m) is recommended for the inhibition of LPAAT-δ 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 LPAAT-δ gene expression knockdown using RT-PCR Primer: LPAAT-δ (m)-PR: sc-155917-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.