SANTA CRUZ BIOTECHNOLOGY, INC.

LPAAT-δ siRNA (h): sc-95331

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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3. Cesari, R., et al. 2003. Parkin, a gene implicated in autosomal recessive juvenile parkinsonism, is a candidate tumor suppressor gene on chromosome 6q25-q27. Proc. Natl. Acad. Sci. USA 100: 5956-5961.
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.
6. Bläker, H., et al. 2008. Recurrent deletions at 6q in early age of onset non-HNPCC- and non-FAP-associated intestinal carcinomas. Evidence for a novel cancer susceptibility locus at 6q14-q22. Genes Chromosomes Cancer 47: 159-164.
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.
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CHROMOSOMAL LOCATION

Genetic locus: AGPAT4 (human) mapping to 6q26.

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.

PRODUCT

LPAAT-δ siRNA (h) 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 LPAAT-δ shRNA Plasmid (h): sc-95331-SH and LPAAT-δ shRNA (h) Lentiviral Particles: sc-95331-V as alternate gene silencing products.

For independent verification of LPAAT-δ (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-95331A, sc-95331B and sc-95331C.

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 (h) is recommended for the inhibition of LPAAT-δ expression in human 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 (h)-PR: sc-95331-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.