

LPAAT- η siRNA (h): sc-90140

BACKGROUND

Phosphatidic acid and lysophosphatidic acid are phospholipids involved in lipid biosynthesis and signal transduction. LPAAT- η , also known as lysophospholipid acyltransferase LPCAT4, AGPAT7 (1-acylglycerol-3-phosphate O-acyltransferase 7), AYTL3 (acyltransferase-like 3) or LPEAT2 (lysophosphatidylethanolamine acyltransferase 2), is a 524 amino acid protein belonging to the 1-acyl-sn-glycerol-3-phosphate acyltransferase family. LPAAT- η displays acyl-CoA-dependent lysophospholipid acyltransferase activity, with lysophospholipids as its substrates. For example, LPAAT- η converts lysophosphatidylethanolamine to phosphatidylethanolamine and lysophosphatidylcholine to phosphatidylcholine, respectively. In contrast, LPAAT- η has no lysophosphatidylinositol, glycerol-3-phosphate, diacylglycerol or lysophosphatidic acid acyltransferase activity. LPAAT- η also prefers long chain acyl-CoAs (C16, C18) as acyl donors. Localized to the endoplasmic reticulum membrane, LPAAT- η is widely expressed with predominant levels in brain. Two isoforms of LPAAT- η are produced by alternative splicing events.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: LPCAT4 (human) mapping to 15q14.

PRODUCT

LPAAT- η 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LPAAT- η shRNA Plasmid (h): sc-90140-SH and LPAAT- η shRNA (h) Lentiviral Particles: sc-90140-V as alternate gene silencing products.

For independent verification of LPAAT- η (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-90140A, sc-90140B and sc-90140C.

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

LPAAT- η siRNA (h) is recommended for the inhibition of LPAAT- η 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 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 LPAAT- η gene expression knockdown using RT-PCR Primer: LPAAT- η (h)-PR: sc-90140-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.