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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

SANTA CRUZ BIOTECHNOLOGY, INC.

LPAAT-η siRNA (m): sc-149019

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 (lysophophatidylethanolamine 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 phosphatidycholine, 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.

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CHROMOSOMAL LOCATION

Genetic locus: Lpcat4 (mouse) mapping to 2 E3.

PRODUCT

LPAAT-η 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 LPAAT-η shRNA Plasmid (m): sc-149019-SH and LPAAT-η shRNA (m) Lentiviral Particles: sc-149019-V as alternate gene silencing products.

For independent verification of LPAAT-η (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-149019A, sc-149019B and sc-149019C.

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-η siRNA (m) is recommended for the inhibition of LPAAT-η 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-η gene expression knockdown using RT-PCR Primer: LPAAT-η (m)-PR: sc-149019-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.