

LPAAT- α siRNA (h): sc-75692

BACKGROUND

Phosphatidic acid and lysophosphatidic acid are phospholipids involved in lipid biosynthesis and signal transduction. LPAAT- α (lysophosphatidic acid acyltransferase α), also designated 1-acylglycerol-3-phosphate O-acyltransferase 1 (AGPAT1), catalyzes the synthesis of phosphatidic acid from lysophosphatidic acid by incorporating an acyl moiety at the sn-2 position of the glycerol backbone. LPAAT- α is a membrane-bound protein belonging to the LPAAT family. Members of the LPAAT family have a well-known role in lipid biosynthesis and may also play a role in tumor progression. LPAAT- α is widely expressed with highest expression in skeletal muscle.

REFERENCES

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- Bursten, S.L. 1998. Interaction of lipopolysaccharide with a mammalian lysophosphatidate acyltransferase (LPAAT) transfected into *E. coli*, and effect of Iisofylline on LPAAT transfected into mammalian cells. *Prog. Clin. Biol. Res.* 397: 345-356.
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- Yamashita, A., et al. 2007. Topology of acyltransferase motifs and substrate specificity and accessibility in 1-acyl-sn-glycero-3-phosphate acyltransferase 1. *Biochim. Biophys. Acta* 1771: 1202-1215.
- Kumar, K.G. and Smith Richards, B.K. 2008. Transcriptional profiling of chromosome 17 quantitative trait loci for carbohydrate and total calorie intake in a mouse congenic strain reveals candidate genes and pathways. *J. Nutrigenet. Nutrigenomics* 1: 155-171.

CHROMOSOMAL LOCATION

Genetic locus: AGPAT1 (human) mapping to 6p21.32.

PRODUCT

LPAAT- α 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- α shRNA Plasmid (h): sc-75692-SH and LPAAT- α shRNA (h) Lentiviral Particles: sc-75692-V as alternate gene silencing products.

For independent verification of LPAAT- α (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-75692A, sc-75692B and sc-75692C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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- α siRNA (h) is recommended for the inhibition of LPAAT- α 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- α gene expression knockdown using RT-PCR Primer: LPAAT- α (h)-PR: sc-75692-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.