

LPAAT- ϵ siRNA (h): sc-77618

BACKGROUND

Phosphatidic acid and lysophosphatidic acid are phospholipids involved in lipid biosynthesis and signal transduction. LPAAT- ϵ (lysophosphatidic acid acyltransferase ϵ , also designated 1-AGP acyltransferase 5 (AGPAT5)) catalyzes the synthesis of phosphatidic acid from lysophosphatidic acid. LPAAT- ϵ is a membrane-bound protein belonging to the LPAAT family. Members of the LPAAT family have a well-known role in lipid biosynthesis and they may also play a role in tumor progression. LPAAT- ϵ is expressed in a tissue-specific manner in prostate and testis. LPAAT- ϵ is most closely related to AGPAT8, which is highly expressed in heart.

REFERENCES

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2. Eberhardt, C., et al. 1997. Human lysophosphatidic acid acyltransferase. cDNA cloning, expression, and localization to chromosome 9q34.3. *J. Biol. Chem.* 272: 20299-20305.
3. Aguado, B., et al. 1998. Characterization of a human lysophosphatidic acid acyltransferase that is encoded by a gene located in the class III region of the human major histocompatibility complex. *J. Biol. Chem.* 273: 4096-4105.
4. Bursten, S.L. 1998. Interaction of lipopolysaccharide with a mammalian lyso-phosphatidate acyltransferase (LPAAT) transfected into *E. coli*, and effect of lisofylline on LPAAT transfected into mammalian cells. *Prog. Clin. Biol. Res.* 397: 345-356.
5. Eberhardt, C., et al. 1999. cDNA cloning, expression and chromosomal localization of two human lysophosphatidic acid acyltransferases. *Adv. Exp. Med. Biol.* 469: 351-356.
6. Lu, B., et al. 2005. Cloning and characterization of murine 1-acyl-sn-glycerol 3-phosphate acyltransferases and their regulation by PPAR α in murine heart. *Biochem. J.* 385: 469-477.
7. Agarwal, A.K., et al. 2006. Functional characterization of human 1-acylglycerol-3-phosphate acyltransferase isoform 8: cloning, tissue distribution, gene structure, and enzymatic activity. *Arch. Biochem. Biophys.* 449: 64-76.

CHROMOSOMAL LOCATION

Genetic locus: AGPAT5 (human) mapping to 8p23.1.

PRODUCT

LPAAT- ϵ 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- ϵ shRNA Plasmid (h): sc-77618-SH and LPAAT- ϵ shRNA (h) Lentiviral Particles: sc-77618-V as alternate gene silencing products.

For independent verification of LPAAT- ϵ (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-77618A, sc-77618B and sc-77618C.

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- ϵ siRNA (h) is recommended for the inhibition of LPAAT- ϵ 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- ϵ gene expression knockdown using RT-PCR Primer: LPAAT- ϵ (h)-PR: sc-77618-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.

PROTOCOLS

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