SANTA CRUZ BIOTECHNOLOGY, INC.

LPAAT-γ siRNA (h): sc-91413

BACKGROUND

Phosphatidic acid and lysophosphatidic acid are phospholipids involved in lipid biosynthesis and signal transduction. LPAAT-γ (lysophosphatidic acid acyltransferase gamma) catalyzes the synthesis of phosphatidic acid from lysophosphatidic acid. LPAAT-γ 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-γ is ubiquitously expressed with highest levels found in testis, where it may play a role in the biogenesis of 1-stearoyl-2-arachidonoyl-phosphatidylinositol. In cardiac tissue, LPAAT-γ expression is regulated by PPARα. The LPAAT-γ protein exists as three isoforms due to alternative splicing events.

REFERENCES

1. West, J., et al. 1997. Cloning and expression of two human lysophosphatidic acid acyltransferase cDNAs that enhance cytokine-induced signaling responses in cells. DNA Cell Biol. 16: 691-701.
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. and Campbell, R.D. 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 lysophosphatidate 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 PPARα in murine heart. Biochem. J. 385: 469-477.

CHROMOSOMAL LOCATION

Genetic locus: AGPAT3 (human) mapping to 21q22.3.

PRODUCT

LPAAT-γ 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-γ shRNA Plasmid (h): sc-91413-SH and LPAAT-γ shRNA (h) Lentiviral Particles: sc-91413-V as alternate gene silencing products.

For independent verification of LPAAT-γ (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-91413A, sc-91413B and sc-91413C.

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-γ siRNA (h) is recommended for the inhibition of LPAAT-γ 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-γ gene expression knockdown using RT-PCR Primer: LPAAT-γ (h)-PR: sc-91413-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.

PROTOCOLS

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