

## LPAAT- $\gamma$ siRNA (m): sc-155916

### BACKGROUND

Phosphatidic acid and lysophosphatidic acid are phospholipids involved in lipid biosynthesis and signal transduction. LPAAT- $\gamma$  (lysophosphatidic acid acyltransferase gamma) catalyzes the synthesis of phosphatidic acid from lysophosphatidic acid. LPAAT- $\gamma$  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- $\gamma$  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- $\gamma$  expression is regulated by PPAR $\alpha$ . The LPAAT- $\gamma$  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 lipofylline 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 $\alpha$  in murine heart. *Biochem. J.* 385: 469-477.

### CHROMOSOMAL LOCATION

Genetic locus: Agpat3 (mouse) mapping to 10 C1.

### PRODUCT

LPAAT- $\gamma$  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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LPAAT- $\gamma$  shRNA Plasmid (m): sc-155916-SH and LPAAT- $\gamma$  shRNA (m) Lentiviral Particles: sc-155916-V as alternate gene silencing products.

For independent verification of LPAAT- $\gamma$  (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-155916A, sc-155916B and sc-155916C.

### 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

### APPLICATIONS

LPAAT- $\gamma$  siRNA (m) is recommended for the inhibition of LPAAT- $\gamma$  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  $\mu$ M in 66  $\mu$ 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- $\gamma$  gene expression knockdown using RT-PCR Primer: LPAAT- $\gamma$  (m)-PR: sc-155916-PR (20  $\mu$ 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](http://www.scbt.com) for detailed protocols and support products.