

## LPPR2 siRNA (h): sc-97689

### BACKGROUND

Phosphatidate phosphatases are a family of integral membrane glycoproteins that dephosphorylate a variety of lipid phosphates and play a role in signal transduction via the phospholipase D pathway. PAP-2 proteins function independently of  $Mg^{2+}$  and are insensitive to NEM (N-ethylmaleimide) inhibition. The lipid phosphates degraded by this family include ceramide 1-phosphate (C1P), sphingosine 1-phosphate (S1P), phosphatidic acid (PA) and lysophosphatidic acid (LPA). LPPR2 (lipid phosphate phosphatase-related protein type 2), also known as PRG4 (plasticity-related gene 4 protein), is a 343 amino acid multi-pass membrane protein that mediates lipid phosphate phosphatase activity and may be involved in mechanisms of neuronal plasticity. There are two isoforms of LPPR2 that are produced as a result of alternative splicing events.

### REFERENCES

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- Brindley, D.N. and Pilquil, C. 2009. Lipid phosphate phosphatases and signaling. *J. Lipid Res.* 50: S225-S230.
- Broggini, T., et al. 2010. Plasticity-related gene 5 (PRG5) induces filopodia and neurite growth and impedes lysophosphatidic acid- and nogo-A-mediated axonal retraction. *Mol. Biol. Cell* 21: 521-537.

### CHROMOSOMAL LOCATION

Genetic locus: PLPPR2 (human) mapping to 19p13.2.

### 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.

### PRODUCT

LPPR2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LPPR2 shRNA Plasmid (h): sc-97689-SH and LPPR2 shRNA (h) Lentiviral Particles: sc-97689-V as alternate gene silencing products.

For independent verification of LPPR2 (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-97689A, sc-97689B and sc-97689C.

### 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

LPPR2 siRNA (h) is recommended for the inhibition of LPPR2 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  $\mu$ 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 LPPR2 gene expression knockdown using RT-PCR Primer: LPPR2 (h)-PR: sc-97689-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.