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# iPLA2 $\gamma$ siRNA (m): sc-155910

## BACKGROUND

iPLA2 $\gamma$ , also known as PNPLA8 (patatin-like phospholipase domain containing 8) or IPLA22, is a 782 amino acid single-pass membrane protein that localizes to both the Golgi and the endoplasmic reticulum and contains one patatin domain. Expressed as multiple alternatively spliced isoforms, iPLA2 $\gamma$  functions as a calcium-independent phospholipase A<sub>2</sub> that cleaves membrane phospholipids and catalyzes the hydrolysis of the sn-2 position of glycerophospholipids. iPLA2 $\gamma$  is present in a variety of tissues, including brain, placenta, heart, liver and pancreas and skeletal muscle, where it exhibits optimal activity at a pH of 8.0. The gene encoding iPLA2 $\gamma$  maps to human chromosome 7q31.1, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome.

## REFERENCES

1. Chaminade, B., et al. 1999. New developments in phospholipase A<sub>2</sub>. *Lipids* 34: S49-S55.
2. Tanaka, H., et al. 2000. A novel intracellular membrane-bound calcium-independent phospholipase A<sub>2</sub>. *Biochem. Biophys. Res. Commun.* 272: 320-326.
3. Mancuso, D.J., et al. 2000. The genomic organization, complete mRNA sequence, cloning, and expression of a novel human intracellular membrane-associated calcium-independent phospholipase A<sub>2</sub>. *J. Biol. Chem.* 275: 9937-9945.
4. Murakami, M., et al. 2005. Group VIB Ca<sup>2+</sup>-independent phospholipase A<sub>2</sub> promotes cellular membrane hydrolysis and prostaglandin production in a manner distinct from other intracellular phospholipases A<sub>2</sub>. *J. Biol. Chem.* 280: 14028-14041.
5. Wilson, P.A., et al. 2006. Characterization of the human patatin-like phospholipase family. *J. Lipid Res.* 47: 1940-1949.
6. Harper, M.T. and Sage, S.O. 2008. Is calcium-independent phospholipase A<sub>2</sub> required for store-operated calcium entry in human platelets? *J. Thromb. Haemost.* 6: 1819-1821.

## CHROMOSOMAL LOCATION

Genetic locus: Pnpla8 (mouse) mapping to 12 B3.

## PRODUCT

iPLA2 $\gamma$  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 iPLA2 $\gamma$  shRNA Plasmid (m): sc-155910-SH and iPLA2 $\gamma$  shRNA (m) Lentiviral Particles: sc-155910-V as alternate gene silencing products.

For independent verification of iPLA2 $\gamma$  (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-155910A, sc-155910B and sc-155910C.

## 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

iPLA2 $\gamma$  siRNA (m) is recommended for the inhibition of iPLA2 $\gamma$  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 iPLA2 $\gamma$  gene expression knockdown using RT-PCR Primer: iPLA2 $\gamma$  (m)-PR: sc-155910-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.