SANTA CRUZ BIOTECHNOLOGY, INC.

PLA2R siRNA (h): sc-94746

BACKGROUND

Phospholipase A_2s (PLA2s) constitute a family of esterases that hydrolyze the sn-2-acyl ester bond in glycerophospholipid molecules. These enzymes are generally calcium-dependent and have been found both intra- and extracellularly. By hydrolyzing the sn-2 bond in glycerophospholipids, PLA2s release fatty acids. One such fatty acid, arachidonic acid, generates the substrates for the initiation of the arachidonic acid cascade that produce various eicosanoids (i.e., prostaglandins, leukotrienes and thromboxanes), many of which are potent mediators of inflammation. PLA2R (phospholipase A_2 receptor 1), also known as PLA2-R, PLA2IR, CLEC13C, PLA2G1R or PLA2R1, is a 1,463 amino acid single-pass type I membrane receptor for secretory phospholipase A_2 ($sPLA_2$). Binding of $sPLA_2$ to PLA2R contributes in both positive and negative regulation of $sPLA_2$ functions as well as clearance of $sPLA_2$. PLA2R may be involved in proinflammatory cytokine response during endotoxic shock.

REFERENCES

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3. Moses, E.K., et al. 1998. Distribution of the phospholipase A_2 receptor messenger RNA in human gestational tissues. Placenta 19: 35-40.
4. Valentin, E. and Lambeau, G. 2000. Increasing molecular diversity of secreted phospholipases A_2 and their receptors and binding proteins. Biochim. Biophys. Acta 1488: 59-70.
5. Murakami, M. and Kudo, I. 2001. Diversity and regulatory functions of mammalian secretory phospholipase A_2s. Adv. Immunol. 77: 163-194.
6. Fonteh, A.N., et al. 2001. Enhancement of mast cell survival: a novel function of some secretory phospholipase A_2 isotypes. J. Immunol. 167: 4161-4171.
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CHROMOSOMAL LOCATION

Genetic locus: PLA2R1 (human) mapping to 2q24.2.

PRODUCT

PLA2R 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 PLA2R shRNA Plasmid (h): sc-94746-SH and PLA2R shRNA (h) Lentiviral Particles: sc-94746-V as alternate gene silencing products.

For independent verification of PLA2R (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-94746A, sc-94746B and sc-94746C.

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

PLA2R siRNA (h) is recommended for the inhibition of PLA2R 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 PLA2R gene expression knockdown using RT-PCR Primer: PLA2R (h)-PR: sc-94746-PR (20 µl, 595 bp). 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.