SANTA CRUZ BIOTECHNOLOGY, INC.

group IB $sPLA_2$ siRNA (h): sc-96105

BACKGROUND

Phospholipase A2s (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 produces various eicosanoids, many of which are potent mediators of inflammation. As a member of the PLA2 family, group IB $sPLA_2$, also known as PLA2G1B (phospholipase A2, group IB), is a 148 amino acid secreted protein that is expressed in the pancreas. Group IB $sPLA_2$ catalyzes the reaction of phosphatidylcholine and water into 1-acylglycerophosphocholine and carboxylate, and may play a role in obesity and Insulin resistance.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: PLA2G1B (human) mapping to 12q24.31.

PRODUCT

group IB $sPLA_2$ siRNA (h) is a pool of 2 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 group IB $sPLA_2$ shRNA Plasmid (h): sc-96105-SH and group IB $sPLA_2$ shRNA (h) Lentiviral Particles: sc-96105-V as alternate gene silencing products.

For independent verification of group IB $sPLA_2$ (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-96105A and sc-96105B.

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

group IB $sPLA_2$ siRNA (h) is recommended for the inhibition of group IB $sPLA_2$ 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 group IB $sPLA_2$ gene expression knockdown using RT-PCR Primer: group IB $sPLA_2$ (h)-PR: sc-96105-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.