SANTA CRUZ BIOTECHNOLOGY, INC.

group IVC $sPLA_2$ siRNA (h): sc-97603

BACKGROUND

group IVC $sPLA_2$, also known as PLA2G4C (phospholipase A_2, group IVC (cytosolic, calcium-independent)) or $cPLA_2$-γ, is a 541 amino acid protein that is lipid-anchored to the membrane and contains one PLA_2c domain. Expressed at high levels in heart and skeletal muscle, group IVC $sPLA_2$, functions to catalyze the conversion of phosphatidylcholine to 1-acylglycerophosphocholine and a carboxylate, a reaction which is important in the creation of signaling molecules. The gene encoding group IVC $sPLA_2$ maps to human chromosome 19, which is the genetic home for a number of immunoglobulin superfamily members, including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG family and Fc receptors (Fc Rs).

REFERENCES

1. Underwood, K.W., et al. 1998. A novel calcium-independent phospholipase A_2, $cPLA_2$-γ, that is prenylated and contains homology to $cPLA_2$. J. Biol. Chem. 273: 21926-21932.
2. Pickard, R.T., et al. 1999. Molecular cloning of two new human paralogs of 85 kDa cytosolic phospholipase A_2. J. Biol. Chem. 274: 8823-8831.
3. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 603602. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Hartmann, C., et al. 2002. Novel PLA2G4C polymorphism as a molecular diagnostic assay for 19q loss in human gliomas. Brain Pathol. 12: 178-182.
5. Lindbom, J., et al. 2002. Increased gene expression of novel cytosolic and secretory phospholipase A_2 types in human airway epithelial cells induced by tumor necrosis factor α and IFN-γ. J. Interferon Cytokine Res. 22: 947-955.

CHROMOSOMAL LOCATION

Genetic locus: PLA2G4C (human) mapping to 19q13.32.

PRODUCT

group IVC $sPLA_2$ 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 group IVC $sPLA_2$ shRNA Plasmid (h): sc-97603-SH and group IVC $sPLA_2$ shRNA (h) Lentiviral Particles: sc-97603-V as alternate gene silencing products.

For independent verification of group IVC $sPLA_2$ (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-97603A, sc-97603B and sc-97603C.

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.

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 IVC $sPLA_2$ siRNA (h) is recommended for the inhibition of group IVC $sPLA_2$ 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 IVC $sPLA_2$ gene expression knockdown using RT-PCR Primer: group IVC $sPLA_2$ (h)-PR: sc-97603-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.