SANTA CRUZ BIOTECHNOLOGY, INC.

PLSCR5 siRNA (h): sc-78163

BACKGROUND

Lipids in biological membranes are distributed asymmetrically across the bilayer with choline-containing lipids and sphingolipids on the extracellular surface and amine-containing phospholipids on the cytoplasmic surface. Phospholipid asymmetry is necessary for normal membrane function and disruption of asymmetry is associated with pathological conditions. The plasma membrane maintains lipid asymmetry via actions of aminophospholipid translocase, floppase and lipid scramblases. The phospholipid scramblase (PLS) family consists of membrane-bound enzymes that participate in the bi-directional movement of phospholipids. PLSCR5 (phospholipid scramblase 5) is a 271 amino acid calcium-dependent mitochondrial membrane protein that is a member of the phospholipid scramblase (PLS) family. The gene encoding PLSCR5 maps to human chromosome 3, which is made up of about 214 million bases encoding over 1,100 genes.

REFERENCES

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2. Zhou, Q., et al. 1998. Identity of a conserved motif in phospholipid scramblase that is required for Ca^{2+}-accelerated transbilayer movement of membrane phospholipids. Biochemistry 37: 2356-2360.
3. Stout, J.G., et al. 1998. Change in conformation of plasma membrane phospholipid scramblase induced by occupancy of its Ca^{2+} binding site. Biochemistry 37: 14860-14866.
4. Bevers, E.M., et al. 1999. Lipid translocation across the plasma membrane of mammalian cells. Biochim. Biophys. Acta 1439: 317-330.
5. Wiedmer, T., et al. 2000. Identification of three new members of the phospholipid scramblase gene family. Biochim. Biophys. Acta 1467: 244-253.
6. Sims, P.J. and Wiedmer, T. 2001. Unraveling the mysteries of phospholipid scrambling. Thromb. Haemost. 86: 266-275.
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CHROMOSOMAL LOCATION

Genetic locus: PLSCR5 (human) mapping to 3q24.

PRODUCT

PLSCR5 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 PLSCR5 shRNA Plasmid (h): sc-78163-SH and PLSCR5 shRNA (h) Lentiviral Particles: sc-78163-V as alternate gene silencing products.

For independent verification of PLSCR5 (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-78163A, sc-78163B and sc-78163C.

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

PLSCR5 siRNA (h) is recommended for the inhibition of PLSCR5 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 PLSCR5 gene expression knockdown using RT-PCR Primer: PLSCR5 (h)-PR: sc-78163-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.