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PC-PLD4 siRNA (m): sc-152047

BACKGROUND

Virtually every cell uses phosphatidylcholine as a substrate to produce phosphatidic acid and choline. Phosphatidylcholine phospholipase D1, D2, D3, D4 and D5 (PC-PLD1-5) are phospholipid-specific phosphodiesterases that hydrolyze phosphatidylcholine to produce choline. PC-PLD activity in mammalian cells is transiently stimulated upon activation by G protein-coupled and receptor tyrosine kinase cell surface receptors. Both PC-PLD1 (which associates with secretory granules) and PC-PLD2 (which localizes to the plasma membrane) regulate macrophage phagocytosis and, through repression of p21, stimulate cell growth. PC-PLD3 localizes to the membrane of the endoplasmic reticulum (ER) and is thought to be highly expressed in neurons, possibly playing a role in neuronal choline production. PC-PLD4 and PC-PLD5 are both single-pass membrane proteins that localize to the membrane and contain two phosphodiesterase domains. Unlike its family members, PC-PLD5 lacks conserved active sites, suggesting that it has no phospholipase activity.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Pld4 (mouse) mapping to 12 F1.

PRODUCT

PC-PLD4 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PC-PLD4 shRNA Plasmid (m): sc-152047-SH and PC-PLD4 shRNA (m) Lentiviral Particles: sc-152047-V as alternate gene silencing products.

For independent verification of PC-PLD4 (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-152047A, sc-152047B and sc-152047C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PC-PLD4 siRNA (m) is recommended for the inhibition of PC-PLD4 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 μ M in 66 μ 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 PC-PLD4 gene expression knockdown using RT-PCR Primer: PC-PLD4 (m)-PR: sc-152047-PR (20 μ 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 for detailed protocols and support products.