SANTA CRUZ BIOTECHNOLOGY, INC.

PLC ε siRNA (r): sc-270253

BACKGROUND

Phosphoinositide-specific phospholipase C (PLC) plays a crucial role in the initiation of receptor mediated signal transduction through the generation of the two second messengers, inositol 1,4,5-triphosphate and diacylglycerol from phosphatidylinositol 4,5-bisphosphate. There are many mammalian PLC isozymes, including PLC β1, PLC β2, PLC β3, PLC β4, PLCγ1, PLCγ2, PLC δ1, PLC δ2 and PLC ε). Phospholipase C epsilon (PLC ε) is characterized by possession of Cdc25 homology and Ras/Rap1-associating domains. PLC ε is translocated from the cytoplasm to the plasma membrane and activated by direct association with Ras at its Ras/Rap1-associating domain.

REFERENCES

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2. Kelley, G.G., et al. 2001. Phospholipase Cε: a novel Ras effector. EMBO J. 20: 743-754.
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4. Wing, M.R., et al. 2001. Activation of phospholipase Cε by heterotrimeric G protein βγ-subunits. J. Biol. Chem. 276: 48257-48261.
5. Song, C., et al. 2002. Differential roles of Ras and Rap1 in growth factor-dependent activation of phospholipase Cε. Oncogene 21: 8105-8113.
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7. Wing, M.R., et al. 2003. Direct activation of phospholipase Cε by Rho. J. Biol. Chem. 278: 41253-41258.
8. Wing, M.R., et al. 2003. PLC ε: a shared effector protein in Ras-, Rho-, and G α β γ-mediated signaling. Mol. Interv. 3: 273-280.
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CHROMOSOMAL LOCATION

Genetic locus: Plce1 (rat) mapping to 1q53.

PRODUCT

PLC ε siRNA (r) 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 PLC ε shRNA Plasmid (r): sc-270253-SH and PLC ε shRNA (r) Lentiviral Particles: sc-270253-V as alternate gene silencing products.

For independent verification of PLC ε (r) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270253A, sc-270253B and sc-270253C.

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

PLC ε siRNA (r) is recommended for the inhibition of PLC ε expression in rat 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 PLC ε gene expression knockdown using RT-PCR Primer: PLC ε (r)-PR: sc-270253-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.