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SANTA CRUZ BIOTECHNOLOGY, INC.

PLC ζ siRNA (m): sc-152298

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, PLC γ1, PLC γ2, PLC δ1, PLC δ2, PLC ζ. PLC ζ (phospholipase C-ζ-1), also known as 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase ζ-1 and testis-development protein NYD-SP27, is a 608 amino acid protein that triggers intracellular calcium oscillations in oocytes solely during M phase and may be the molecular trigger for egg activation during fertilization. Upon nuclear envelope breakdown for mitosis, PLC ζ localizes from the pronucleus to the cytoplasm and then localizes again to the pronucleus at interphase following meiosis and mitosis. There are three isoforms of PLC ζ that are produced as a result of alternative splicing events.

REFERENCES

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8. Young, C., et al. 2009. Phospholipase C ζ undergoes dynamic changes in its pattern of localization in sperm during capacitation and the acrosome reaction. Fertil. Steril. 91: 2230-2242.
9. Cooney, M.A., et al. 2010. Species-specific differences in the activity and nuclear localization of murine and bovine phospholipase C, ζ 1. Biol. Reprod. 83: 92-101.

CHROMOSOMAL LOCATION

Genetic locus: Plcz1 (mouse) mapping to 6 G2.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

PLC ζ 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PLC ζ shRNA Plasmid (m): sc-152298-SH and PLC ζ shRNA (m) Lentiviral Particles: sc-152298-V as alternate gene silencing products.

For independent verification of PLC ζ (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-152298A, sc-152298B and sc-152298C.

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 ζ siRNA (m) is recommended for the inhibition of PLC ζ 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 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 ζ gene expression knockdown using RT-PCR Primer: PLC ζ (m)-PR: sc-152298-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.