SANTA CRUZ BIOTECHNOLOGY, INC.

PLC-XD3 siRNA (h): sc-91727

BACKGROUND

Phosphoinositide-specific phospholipase C (PLC) plays a crucial role in the initiation of receptor-mediated signal transduction through the generation of two second messengers, inositol 1,4,5-triphosphate and diacylglycerol, from phosphatidylinositol 4,5-bisphosphate. PLC isozymes are divided into subclasses based on structure and activation mechanisms. PLC-XD3 (phosphatidylinositol-specific phospholipase C, X domain containing 3), also known as PI-PLC X domain-containing protein 3, is a 321 amino acid protein that contains one PI-PLC X-box domain, which is conserved from prokaryotes to mammals and is present in many PLC isozymes. Both X-box and Y-box domains are also important for catalytic activity in PLC proteins. PLC-XD3 is targeted by D5S430, which is a potential prognostic molecular survival marker for tumors without preoperative treatment. The gene that encodes PLC-XD3 maps to human chromosome 5p13.1.

REFERENCES

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3. Schinke, T., et al. 2008. The protein tyrosine phosphatase Rptpζ is expressed in differentiated osteoblasts and affects bone formation in mice. Bone 42: 524-534.
4. Fulp, C.T., et al. 2008. Identification of Arx transcriptional targets in the developing basal forebrain. Hum. Mol. Genet. 17: 3740-3760.
5. Moran, L.B. and Graeber, M.B. 2008. Towards a pathway definition of Parkinson's disease: a complex disorder with links to cancer, diabetes and inflammation. Neurogenetics 9: 1-13.
6. Romain, B., et al. 2010. Allelotyping identification of genomic alterations in rectal chromosomally unstable tumors without preoperative treatment. BMC Cancer 10: 561.
7. Cordeaux, Y., et al. 2010. Effects of medroxyprogesterone acetate on gene expression in myometrial explants from pregnant women. J. Clin. Endocrinol. Metab. 95: E437-E447.
8. Boyer, O., et al. 2010. Mutational analysis of the PLCE1 gene in steroid resistant nephrotic syndrome. J. Med. Genet. 47: 445-452.

CHROMOSOMAL LOCATION

Genetic locus: PLCXD3 (human) mapping to 5p13.1.

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.

PRODUCT

PLC-XD3 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 PLC-XD3 shRNA Plasmid (h): sc-91727-SH and PLC-XD3 shRNA (h) Lentiviral Particles: sc-91727-V as alternate gene silencing products.

For independent verification of PLC-XD3 (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-91727A, sc-91727B and sc-91727C.

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-XD3 siRNA (h) is recommended for the inhibition of PLC-XD3 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 PLC-XD3 gene expression knockdown using RT-PCR Primer: PLC-XD3 (h)-PR: sc-91727-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.