SANTA CRUZ BIOTECHNOLOGY, INC.

PLC-XD2 siRNA (h): sc-78111

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. PLC isozymes are divided into subclasses based on structure and activation mechanisms. PLC-XD2 (PI-PLC X domain-containing protein 2) is a 305 amino acid protein that contains a domain that is present in many PLC isozymes, the PI-PLC X (X-box)domain. Both the X-box domain and the Y-box domain are important for catalytic activity in PLC proteins. X-box domains are conserved from prokaryotes to mammals. The gene encoding PLC-XD2 maps to human chromosome 3, which is made up of about 214 million bases encoding over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci. There are two isoforms of PLC-XD2 that are produced as a result of alternative splicing events.

REFERENCES

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3. Sternweis, P.C. and Smrcka, A.V. 1992. Regulation of phospholipase C by G proteins. Trends Biochem. Sci. 17: 502-506.
4. Müller, S., et al. 2000. Molecular cytogenetic dissection of human chromosomes 3 and 21 evolution. Proc. Natl. Acad. Sci. USA 97: 206-211.
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6. Muzny, D.M., et al. 2006. The DNA sequence, annotation and analysis of human chromosome 3. Nature 440: 1194-1198.
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CHROMOSOMAL LOCATION

Genetic locus: PLCXD2 (human) mapping to 3q13.2.

PRODUCT

PLC-XD2 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-XD2 shRNA Plasmid (h): sc-78111-SH and PLC-XD2 shRNA (h) Lentiviral Particles: sc-78111-V as alternate gene silencing products.

For independent verification of PLC-XD2 (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-78111A, sc-78111B and sc-78111C.

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-XD2 siRNA (h) is recommended for the inhibition of PLC-XD2 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-XD2 gene expression knockdown using RT-PCR Primer: PLC-XD2 (h)-PR: sc-78111-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.