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# PLC $\eta$ 2 siRNA (m): sc-152297

## 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 (IP3) and diacylglycerol (DAG) from phosphatidylinositol 4,5-bisphosphate. There are many mammalian PLC isozymes, including PLC  $\beta$ 1, PLC  $\beta$ 2, PLC  $\beta$ 3, PLC  $\beta$ 4, PLC  $\gamma$ 1, PLC  $\gamma$ 2, PLC  $\delta$ 1, PLC  $\delta$ 2, PLC  $\epsilon$  and PLC  $\eta$ 2. PLC  $\eta$ 2 (phospholipase C,  $\eta$ 2), also known as PLCH2 or PLCL4, is a 1,416 amino acid cell membrane protein that contains one C2 domain, one PH domain, one PI-PLC X-box and Y-box domain and two EF-hand domains. Expressed in kidney and retinal tissue, PLC  $\eta$ 2 uses calcium as a cofactor to produce DAG and IP3, thereby playing an important role in the formation and maintenance of neuronal networks. Multiple isoforms of PLC  $\eta$ 2 exist due to alternative splicing events.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: Plch2 (mouse) mapping to 4 E2.

## PRODUCT

PLC  $\eta$ 2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PLC  $\eta$ 2 shRNA Plasmid (m): sc-152297-SH and PLC  $\eta$ 2 shRNA (m) Lentiviral Particles: sc-152297-V as alternate gene silencing products.

For independent verification of PLC  $\eta$ 2 (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-152297A, sc-152297B and sc-152297C.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

## APPLICATIONS

PLC  $\eta$ 2 siRNA (m) is recommended for the inhibition of PLC  $\eta$ 2 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  $\mu$ M in 66  $\mu$ 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 PLC  $\eta$ 2 gene expression knockdown using RT-PCR Primer: PLC  $\eta$ 2 (m)-PR: sc-152297-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.