SignalSilence® PLCγ1 siRNA II

#6254 Store at -20°C

☑ 10 µM in 300 µl
(100 transfections)

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not For Use In Diagnostic Procedures.

Species Cross-Reactivity: H (M)

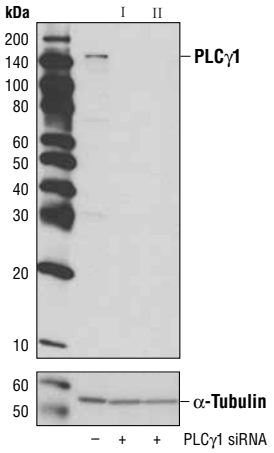
Description: SignalSilence® PLCγ1 siRNA II from Cell Signaling Technology (CST) allows the researcher to specifically inhibit PLCγ1 expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence® siRNA products from CST are rigorously tested in-house and have been shown to reduce target protein expression by western analysis.

Background: Phosphoinositide-specific phospholipase C (PLC) plays a significant role in transmembrane signaling. In response to extracellular stimuli such as hormones, growth factors and neurotransmitters, PLC hydrolyzes phosphatidylinositol 4,5-bisphosphate (PIP2) to generate two secondary messengers: inositol 1,4,5-triphosphate (IP3) and diacylglycerol (DAG) (1). At least four families of PLCs have been identified: PLCβ, PLCγ, PLCδ, and PLCε. Phosphorylation is one of the key mechanisms that regulate the activity of PLC. PLCγ is activated by both receptor and non-receptor tyrosine kinases (2). PLCγ forms a complex with EGF and PDGF receptors, which leads to the phosphorylation of PLCγ at Tyr771, 783 and 1245 (3). Phosphorylation by Syk at Tyr783 activates the enzymatic activity of PLCγ1 (4). PLCγ2 is engaged in antigen-dependent signaling in B-cells and collagen-dependent signaling in platelets. Phosphorylation by Btk or Lck at Tyr753, 759, 1197 and 1217 is correlated with PLCγ2 activity (5,6).

Directions for Use: CST recommends transfection with 100 nM PLCγ1 siRNA II 48 to 72 hours prior to cell lysis. For transfection procedure, follow protocol provided by the transfection reagent manufacturer. Please feel free to contact CST with any questions on use.

Quality Control: Oligonucleotide synthesis is monitored base by base through trityl analysis to ensure appropriate coupling efficiency. The oligo is subsequently purified by affinity-solid phase extraction. The annealed RNA duplex is further analyzed by mass spectrometry to verify the exact composition of the duplex. Each lot is compared to the previous lot by mass spectrometry to ensure maximum lot-to-lot consistency.

Specificity/ Sensitivity: PLCγ1 siRNA II will inhibit human and mouse PLCγ1 expression.



Western blot analysis of extracts from HeLa cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-), SignalSilence® PLCγ1 siRNA I #6293 (+) or SignalSilence® PLCγ1 siRNA II (+), using PLCγ1 (D9H10) XP™ Rabbit mAb #5690 (upper) or α-Tubulin (11H10) Rabbit mAb #2125 (lower). The PLCγ1 (D9H10) XP™ Rabbit mAb confirms silencing of PLCγ1 expression, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.

Entrez-Gene ID #5335
Swiss-Prot Acc. #P19174

Storage: PLCγ1 siRNA II is supplied in RNAse-free water. Aliquot and store at -20ºC.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

(1) Singer, W.D. et al. (1997) *Annu Rev Biochem* 66, 475-509.
(2) Margolis, B. et al. (1989) *Cell* 57, 1101-7.
(3) Kim, H.K. et al. (1991) *Cell* 65, 435-41.
(4) Wang, Z. et al. (1998) *Mol Cell Biol* 18, 590-7.
(5) Watanabe, D. et al. (2001) *J Biol Chem* 276, 38595-601.
(6) Ozdener, F. et al. (2002) *Mol Pharmacol* 62, 672-9.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.