#6359 Store at -20°C

SignalSilence® PI3 Kinase p110α siRNA I

☑ 10 µM in 300 µl
(100 transfections)

Cell Signaling TECHNOLOGY®

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

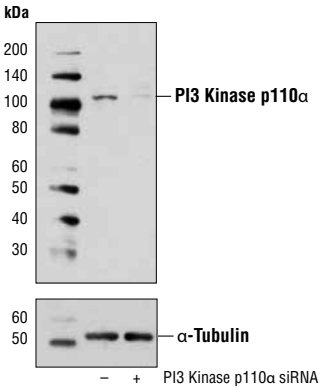
Species Cross-Reactivity: H

Description: SignalSilence® PI3 Kinase p110α siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit PI3 Kinase p110α 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 CST™ SignalSilence® siRNA products are rigorously tested in-house and have been shown to reduce protein expression by western analysis.

Background: Phosphoinositide 3-kinase (PI3K) catalyzes the production of phosphatidylinositol-3,4,5-triphosphate by phosphorylating phosphatidylinositol (PI), phosphatidylinositol-4-phosphate (PIP) and phosphatidylinositol-4,5-bisphosphate (PIP2). Growth factors and hormones trigger this phosphorylation event, which in turn coordinates cell growth, cell cycle entry, cell migration, and cell survival (1). PTEN reverses this process, and the PI3K signaling pathway is constitutively activated in human cancers that have loss of function of PTEN (2). PI3Ks are composed of a catalytic subunit (p110) and a regulatory subunit. Various isoforms of the catalytic subunit (p110α, p110β, p110γ, and p110δ) have been isolated, and the regulatory subunits that associate with p110α, p110β, and p110δ are p85α and p85β (3). In contrast, p110γ associates with a p101 regulatory subunit that is unrelated to p85. Furthermore, p110γ is activated by βγ subunits of heterotrimeric G proteins (4).

Directions for Use: CST recommends transfecting with 100nM PI3 Kinase p110α siRNA I 48 to 72 hours before lysing cells. 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.



Western blot analysis of extracts from HeLa cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-) or SignalSilence® PI3 Kinase p110α siRNA I (+), using PI3 Kinase p110α (C73F8) Rabbit mAb #4249 and α-Tubulin (11H10) Rabbit mAb #2125. The PI3 Kinase p110α (C73F8) Rabbit mAb antibody confirms silencing of PI3 Kinase p110α expression while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.

Entrez-Gene ID #5290
Swiss-Prot Acc. #P42336

Storage: PI3 Kinase p110α siRNA I is supplied in RNAse-free water. *Aliquot and store at -20°C.*

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

Background References:

(1) Cantley, L.C. (2002) *Science* 296, 1655-7.

(2) Simpson, L. and Parsons, R. (2001) *Exp Cell Res* 264, 29-41.

(3) Neri, L.M. et al. (2002) *Biochim Biophys Acta* 1584, 73-80.

(4) Stoyanov, B. et al. (1995) *Science* 269, 690-3.

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.