

SignalSilence® PP1 α siRNA I

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New 10/13

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

Species Cross-Reactivity: H, (M, R)

Description: SignalSilence® PP1 α siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit PP1 α 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.

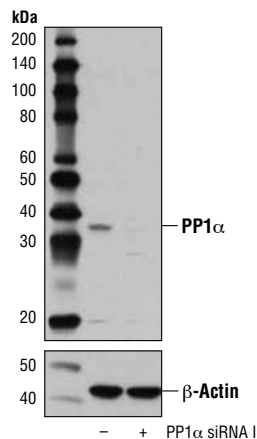
Background: Type 1 protein phosphatase (PP1), a serine/threonine phosphatase, is highly conserved in eukaryotic cells. Four isoforms of PP1 have been characterized: PP1 α , PP1 δ , PP1 γ 1 and PP1 γ 2 (1). Involvement in cell cycle regulation is one of the biological functions of PP1 (1). It has been illustrated that PP1 dephosphorylates Rb and cdc25 during mitosis (2,3). A cell cycle-dependent phosphorylation at Thr320 of PP1 α by cdc2 kinase inhibits PP1 α activity (4).

Specificity/Sensitivity: SignalSilence® PP1 α siRNA I inhibits human, mouse and rat PP1 α expression.

Directions for Use: CST recommends transfection with 100 nM SignalSilence® PP1 α siRNA I 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.

Each vial contains the equivalent of 100 transfections, which corresponds to a final siRNA concentration of 100 nM per transfection in a 24-well plate with a total volume of 300 μ l per well.

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® PP1 α siRNA I (+), using PP1 α Antibody #2582 (upper) or β -Actin (D6A8) Rabbit mAb #8457 (lower). The PP1 α Antibody confirms silencing of PP1 α expression, while the β -Actin (D6A8) Rabbit mAb is used as a loading control.

Entrez-Gene ID #5499
Swiss-Prot Acc. #P62136

Storage: PP1 α 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) Rubin, E. et al. (1998) *Front Biosci* 3, D1209-19.
- (2) Durfee, T. et al. (1993) *Genes Dev* 7, 555-69.
- (3) Izumi, T. et al. (1992) *Mol Biol Cell* 3, 927-39.
- (4) Kwon, Y.G. et al. (1997) *Proc Natl Acad Sci USA* 94, 2168-73.