SignalSilence® GSK-3α siRNA I

#6312 Store at -20C

☑ 10 µM in 300 µl
(100 Transfections)

Cell Signaling TECHNOLOGY®

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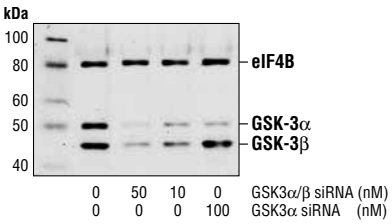
rev. 07/18/11

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

Description: SignalSilence® GSK-3α siRNA I from Cell Signaling Technology allows the researcher to specifically inhibit GSK-3α expression using RNA interference, a method in which gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence® siRNA products are rigorously tested in-house and have been shown to reduce protein expression in specified cell lines.

Background: Glycogen synthase kinase-3 (GSK-3) was initially identified as an enzyme that regulates glycogen synthesis in response to insulin (1). GSK-3 is a ubiquitously expressed serine/threonine protein kinase that phosphorylates and inactivates glycogen synthase. GSK-3 is a critical downstream element of the PI3 kinase/Akt cell survival pathway whose activity can be inhibited by Akt-mediated phosphorylation at Ser21 of GSK-3α and Ser9 of GSK-3β (2,3). GSK-3 has been implicated in the regulation of cell fate in Dictyostelium and is a component of the Wnt signaling pathway required for Drosophila, Xenopus, and mammalian development (4). GSK-3 has been shown to regulate cyclin D1 proteolysis and subcellular localization (5).

Directions for Use: CST recommends transfection with 100 nM GSK-3α siRNA 48-72 hours prior to cell lysis.



Western blot analysis of extracts from HeLa cells, untransfected or transfected with either GSK-3α/β siRNA #6301 or GSK-3alpha siRNA. GSK-3α and GSK-3β were detected using a GSK-3α/β antibody, and eIF4B was detected using eIF4B Antibody #3592. The GSK-3α/β antibody confirms silencing of GSK-3α and β expression, and the eIF4B Antibody is used to control for loading and siRNA specificity.

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: GSK-3α siRNA I will inhibit human, mouse, rat and monkey GSK-3α expression.

Entrez-Gene ID #2931
Swiss-Prot Acc. #P49840

Storage: GSK-3α 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) Welsh, G.I. et al. (1996) *Trends Cell. Biol.* 6, 274-279.

(2) Srivastava, A.K. and Pandey, S.K. (1998) *Mol. Cell. Biochem.* 182, 135-141.

(3) Cross, D.A. et al. (1995) *Nature* 378, 785-789.

(4) Nusse, R. (1997) *Cell* 89, 321-323.

(5) Diehl, J.A. et al. (1998) *Genes Dev.* 12, 3499-3511.

(6) Yu, J. Y. et al. (2003) *Mol. Ther.* 7, 228-236.*Science-CellScienceProc Natl Acad Sci USAJ Biol ChemFEBS LettNatureGenes DevJ Biol ChemNat Cell BiolBiochem JNat Cell BiolMol CellJ. Biol. Chem.*

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.