

SignalSilence® GSK-3 α siRNA II

✓ 10 μ M in 300 μ l
(100 Transfections)

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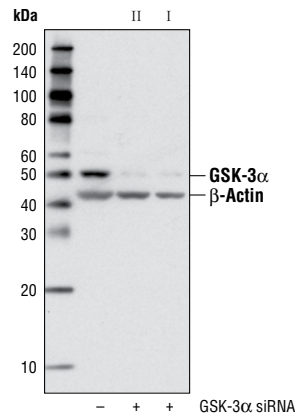
This product is for *in vitro* research use only and is not intended for use in humans or animals.
This product is not intended for use as a therapeutic or in diagnostic procedures.

Species Cross-Reactivity: H

Description: SignalSilence® GSK-3 α siRNA II from Cell Signaling Technology (CST) allows the researcher to specifically inhibit GSK-3 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 are rigorously tested in-house and have been shown to reduce target protein expression by western analysis.

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 an 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, and its activity can be inhibited by Akt-mediated phosphorylation at Ser21 of GSK-3 α and Ser9 of GSK-3 β (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-3 α 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.



Western blot analysis of extracts from HeLa cells, transfected with 100 nM SignalSilence® Control siRNA (Fluorescein Conjugate) #6201 (-), SignalSilence® GSK-3 α siRNA II (+) or SignalSilence® GSK-3 α siRNA I #6312 (+), using GSK-3 α Antibody #9338 and α -Tubulin (11H10) Rabbit mAb #2125. GSK-3 α Antibody confirms silencing of GSK-3 α expression and β -Actin (13E5) Rabbit mAb is used to control for loading and specificity of GSK-3 α siRNA.

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

Storage: GSK-3 α siRNA II is supplied in RNase-free water. Aliquot and store at -20°C.

Companion Products:

SignalSilence® Control siRNA (Fluorescein Conjugate) #6201
SignalSilence® Control siRNA (Unconjugated) #6568
SignalSilence® GSK-3 α siRNA I #6312
SignalSilence® NF- κ B p65 siRNA Kit #6535
GSK-3 α Antibody #9338

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.