SignalSilence® IKKα siRNA I

#6372 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, R, Mk)

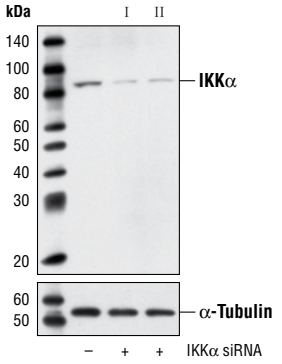
Description: SignalSilence® IKKα siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit IKKα expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence®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

Background: The NF-κB/Rel transcription factors are present in the cytosol in an inactive state, complexed with the inhibitory IκB proteins (1-3). Most agents that activate NF-κB do so through a common pathway based on phosphorylation-induced, proteasome-mediated degradation of IκB (3-7). The key regulatory step in this pathway involves activation of a high molecular weight IκB kinase (IKK) complex, whose catalysis is generally carried out by three tightly associated IKK subunits. IKKα and IKKβ serve as the catalytic subunits of the kinase and IKKγ serves as the regulatory subunit (8,9). Activation of IKK depends upon phosphorylation; Ser177 and Ser181 in the activation loop of IKKβ (serine 176 and 180 in IKKα) are the specific sites whose phosphorylation causes conformational changes resulting in kinase activation (10-13).

Directions for Use: CST recommends transfection with 100 nM IKKα 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.

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: IKKα siRNA I will inhibit human, mouse, rat and monkey IKKα expression.



Western blot analysis of extracts from HeLa cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-), SignalSilence® IKKα siRNA I (+) or SignalSilence® IKKα siRNA II #6373 (+), using IKKα Antibody #2682 (upper) or α-Tubulin (11H10) Rabbit mAb #2125 (lower). The IKKα Antibody confirms silencing of IKKα expression, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.

Entrez-Gene ID #1147
Swiss-Prot Acc. #O15111

Storage: IKKα siRNA I 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) Baeuerle, P.A. and Baltimore, D. (1988) *Science* 242, 540-6.
(2) Beg, A.A. and Baldwin, A.S. (1993) *Genes Dev* 7, 2064-70.
(3) Finco, T.S. et al. (1994) *Proc Natl Acad Sci USA* 91, 11884-8.
(4) Brown, K. et al. (1995) *Science* 267, 1485-8.
(5) Brockman, J.A. et al. (1995) *Mol Cell Biol* 15, 2809-18.
(6) Traenckner, E.B. et al. (1995) *EMBO J* 14, 2876-83.
(7) Chen, Z.J. et al. (1996) *Cell* 84, 853-62.
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(9) Karin, M. (1999) *Oncogene* 18, 6867-74.
(10) DiDonato, J.A. et al. (1997) *Nature* 388, 548-54.
(11) Mercurio, F. et al. (1997) *Science* 278, 860-6.
(12) Johnson, L.N. et al. (1996) *Cell* 85, 149-58.
(13) Delhase, M. et al. (1999) *Science* 284, 309-13.

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.