#6294 Store at -20°C

SignalSilence® MKK3 siRNA I

☑ 10µM in 300 µl
(100 transfections)

Cell Signaling TECHNOLOGY®

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rev. 02/09/16

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

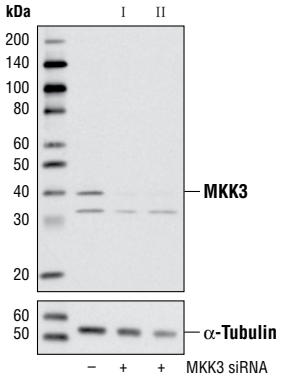
Species Cross-Reactivity: H

Description: SignalSilence® MKK3 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit MKK3 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: MKK3 and MKK6 are two closely related dual-specificity protein kinases that activate p38 MAP kinase (1-5). MKK3 and MKK6 both phosphorylate and activate p38 MAP kinase at its activation site Thr-Gly-Tyr but do not phosphorylate or activate Erk1/2 or SAPK/JNK. Phosphorylation of p38 MAP kinase dramatically stimulates its ability to phosphorylate protein substrates such as ATF-2 and Elk-1. MKK3 and MKK6 are both activated by different forms of cellular stress and inflammatory cytokines (4,5). Activation of MKK3 and MKK6 occurs through phosphorylation of serine and threonine residues at sites Ser189 and Thr193 for MKK3 (2) and Ser207 and Thr211 for MKK6 (4,5).

Directions for Use: CST recommends transfection with 100 nM MKK3 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.



Western blot analysis of extracts from HeLa cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-), SignalSilence® MKK3 siRNA I (+) or SignalSilence® MKK3 siRNA II #6295 (+), using MKK3 Antibody #9232 (upper) or α-Tubulin (11H10) Rabbit mAb #2125 (lower). The MKK3 Antibody confirms silencing of MKK3 expression, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.

Entrez-Gene ID #5606
Swiss-Prot Acc. #P46734

Storage: MKK3 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) Derijard, B. et al. (1995) *Science* 267, 682-685.

(2) Raingeaud, J. et al. (1995) *J. Biol. Chem.* 270, 7420-7426.

(3) Sluss, H.K. et al. (1994) *Mol. Cell. Biol.* 14, 8376-8384.

(4) Raingeaud, J. et al. (1996) *Mol. Cell. Biol.* 16(3), 1247-1255.

(5) Han, J. et al. (1996) *J. Biol. Chem.* 271, 2886-2891.

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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.