SignalSilence® MEK2 siRNA I

#6431 Store at -20°C

☑ 10 µM in 300 µl (3 nmol)

Cell Signaling TECHNOLOGY®

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

Species Cross-Reactivity: H

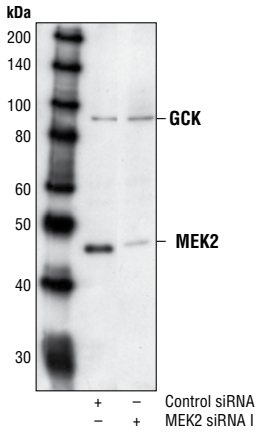
Description: SignalSilence® MEK2 siRNA from Cell Signaling Technology allows the researcher to specifically inhibit MEK2 expression using RNA interference, a method in which gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence® siRNA products are rigorously tested in-house and have been shown to reduce protein expression in specified cell lines.

Background: MEK1 and MEK2, also called MAPK or Erk kinases, are dual-specificity protein kinases that function in a mitogen activated protein kinase cascade controlling cell growth and differentiation (1-3). Activation of MEK1 and MEK2 occurs through phosphorylation of two serine residues at positions 217 and 221, located in the activation loop of subdomain VIII, by Raf-like molecules. MEK1/2 is activated by a wide variety of growth factors and cytokines and also by membrane depolarization and calcium influx (1-4). Constitutively active forms of MEK1/2 are sufficient for the transformation of NIH/3T3 cells or the differentiation of PC-12 cells (4). MEK activates p44 and p42 MAP kinase by phosphorylating both threonine and tyrosine residues at sites located within the activation loop of kinase subdomain VIII.

Small interfering RNA (siRNA) has been used to specifically silence MEK2 expression in HEK293T cells (5).

Directions for Use: CST recommends transfection with 100nM MEK2 siRNA 48 to 72 hours prior to cell lysis. See Protocol for transfection procedure.

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 control siRNA #6201 (lane 1), MEK1 siRNA (lane 2), MEK2 siRNA (lane 3) or MEK1 and MEK2 siRNA (Lane 4), using MEK2 Antibody #9125 (upper) or MEK1 Antibody #9124 (lower) in combination with GCK Antibody #3782. The MEK2 Antibody confirms silencing of MEK2 expression, MEK1 Antibody demonstrates MEK2 siRNA has no effect on its homologue MEK1, and GCK Antibody is used to control for loading and specificity of MEK2 siRNA.

Entrez-Gene ID #5605
Swiss-Prot Acc. #P36507

Storage: MEK2 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) Crews, C.M. et al. (1992) *Science* 258, 478-480.
(2) Alessi, D.R. et al. (1994) *EMBO J.* 13, 1610-1619.
(3) Rosen, L.B. et al. (1994) *Neuron* 12, 1207-1221.
(4) Cowley, S. et al. (1994) *Cell* 77, 841-852.
(5) Castro-Obregón, S. et al. (2004) *J Biol Chem* 279, 17543-53.

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.