

#6426 Store at -20°C

# SignalSilence® MEK1 siRNA I



✓ 10 µM in 300 µl (100 transfections)

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

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

**Description:** SignalSilence® MEK1 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit MEK1 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.

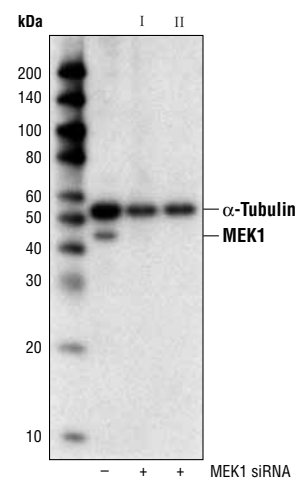
**Background:** MEK1 and MEK2, also called MAPK or Erk kinases, are dual-specificity protein kinases that function in a mitogen activated protein kinase cascade controlling cell growth and differentiation (1-3). Activation of MEK1 and MEK2 occurs through phosphorylation of two serine residues at positions 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 PC12 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 MEK1 expression in HEK293T cells (5).

**Directions for Use:** CST recommends transfection with 100nM MEK1 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:** SignalSilence® MEK1 siRNA I will inhibit human, mouse and rat MEK1 expression.



Western blot analysis of extracts from HeLa cells, transfected with 100 nM SignalSilence® Control siRNA (Fluorescein Conjugate) #6201 (-) or SignalSilence® MEK1 siRNA I or SignalSilence® MEK1 siRNA II #6530 (+), using MEK1 (61B12) Mouse mAb #2352 and α-Tubulin (11H10) Rabbit mAb #2125. The MEK1 (61B12) Mouse mAb confirms silencing of MEK1 expression and α-Tubulin (11H10) Rabbit mAb is used to control for loading and specificity of MEK1 siRNA.

Entrez-Gene ID #5604  
Swiss-Prot Acc. #Q02750

**Storage:** MEK1 siRNA I is supplied in RNase-free water. Aliquot and store at -20°C.

Please visit [www.cellsignal.com](http://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-Obregon, S. et al. (2004) *J. Biol. Chem.* In press, 279, 17543-53.

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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.