#6590 Store at -20°C

SignalSilence® CREB siRNA II

☑ 10 µM in 300 µl
(100 transfections)

Cell Signaling TECHNOLOGY®

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

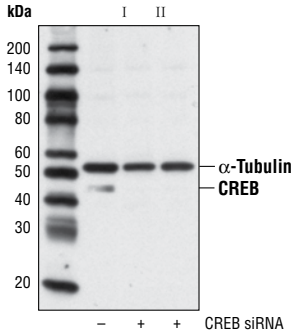
Species Cross-Reactivity: H

Description: SignalSilence® CREB siRNA from Cell Signaling Technology (CST) allows the researcher to specifically inhibit CREB 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: CREB is a bZIP transcription factor that activates target genes through cAMP response elements. CREB is able to mediate signals from numerous physiological stimuli, resulting in regulation of a broad array of cellular responses. While CREB is expressed in numerous tissues, it plays a large regulatory role in the nervous system. CREB is believed to play a key role in promoting neuronal survival, precursor proliferation, neurite outgrowth and neuronal differentiation in certain neuronal populations (1-3). Additionally, CREB signaling is involved in learning and memory in several organisms (4-6). CREB is able to selectively activate numerous downstream genes through interactions with different dimerization partners. CREB is activated by phosphorylation at Ser133 by various signaling pathways including Erk, Ca^{2+} and stress signaling. Some of the kinases involved in phosphorylating CREB at Ser133 are p90RSK, MSK, CaMKIV and MAPKAPK-2 (7-9).

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

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® CREB siRNA I #6588 (+) or SignalSilence® CREB siRNA II (+), using CREB (48H2) Rabbit mAb #9197 and α-Tubulin (11H10) Rabbit mAb #2125. The CREB (48H2) Rabbit mAb confirms silencing of CREB expression and α-Tubulin (11H10) Rabbit mAb is used to control for loading and specificity of CREB siRNA.

Entrez-Gene ID #1385
Swiss-Prot Acc. #P16220

Storage: CREB siRNA II 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) Lonze, B.E. et al. (2002) *Neuron* 34, 371-85.
(2) Lee, M.M. et al. (1999) *J Neurosci Res* 55, 702-12.
(3) Redmond, L. et al. (2002) *Neuron* 34, 999-1010.
(4) Dash, P.K. et al. (1990) *Nature* 345, 718-21.
(5) Yin, J.C. et al. (1994) *Cell* 79, 49-58.
(6) Guzowski, J.F. and McGaugh, J.L. (1997) *Proc Natl Acad Sci USA* 94, 2693-8.
(7) Xing, J. et al. (1998) *Mol Cell Biol* 18, 1946-55.
(8) Ribar, T.J. et al. (2000) *J Neurosci* 20, RC107.
(9) Tan, Y. et al. (1996) *EMBO J* 15, 4629-42.

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.