Store at -20°C

#6393

SignalSilence® 4E-BP1 siRNA II (Mouse Specific)

☑ 10 µM in 300 µl
(100 transfections)

Cell Signaling TECHNOLOGY®

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New 03/11

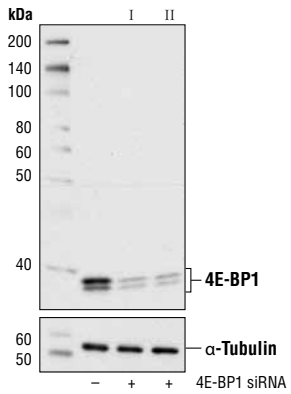
Species Cross-Reactivity: M

Description: SignalSilence® 4E-BP1 siRNA II (Mouse Specific) from Cell Signaling Technology (CST) allows the researcher to specifically inhibit 4E-BP1 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: Translation repressor protein 4E-BP1 (also known as PHAS-1) inhibits cap-dependent translation by binding to the eIF4E translation initiation factor. Hyperphosphorylation of 4E-BP1 disrupts this interaction and results in activation of cap-dependent translation (1). Both the PI3 kinase/Akt pathway and FRAP/mTOR kinase regulate 4E-BP1 activity (2,3). Multiple 4E-BP1 residues are phosphorylated *in vivo* (4). While phosphorylation by FRAP/mTOR on Thr37 and Thr46 does not prevent the binding of 4E-BP1 to eIF4E, it is thought to prime 4E-BP1 for subsequent phosphorylation at Ser65 and Thr70 (5).

Directions for Use: CST recommends transfection with 100 nM SignalSilence® 4E-BP1 siRNA II (Mouse Specific) 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 NIH/3T3 cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-), SignalSilence® 4E-BP1 siRNA I #6392 (Mouse Specific) (+), or SignalSilence® 4E-BP1 siRNA II (Mouse Specific) (+) using 4E-BP1 (53H11) Rabbit mAb #9644 (upper) or α-Tubulin (11H10) Rabbit mAb #2125 (lower). The 4E-BP1 (53H11) Rabbit mAb confirms silencing of 4E-BP1 expression, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.

Entrez-Gene ID #13685
Swiss-Prot Acc. #Q60876

Storage: 4E-BP1 siRNA II (Mouse Specific) 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) Pause, A. et al. (1994) *Nature* 371, 762-767.

(2) Brunn, G.J. et al. (1997) *Science* 277, 99-101.

(3) Gingras, A.C. et al. (1998) *Genes Dev.* 12, 502-513.

(4) Fadden, P. et al. (1997) *J. Biol. Chem.* 272, 10240-10247.

(5) Gingras, A.C. et al. (1999) *Genes Dev.* 13, 1422-1437.

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.