SignalSilence® Bad siRNA I

#6471 Store at -20°C

☑ 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, M, R

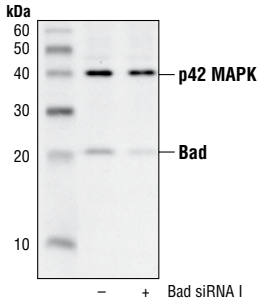
Description: SignalSilence® Bad siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit Bad expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence® siRNA products from CST are rigorously tested in-house and have been shown to reduce target protein expression by western analysis.

Background: Bad is a proapoptotic member of the Bcl-2 family that promotes cell death by displacing Bax from binding to Bcl-2 and Bcl-xL (1,2). Survival factors, such as IL-3, inhibit the apoptotic activity of Bad by activating intracellular signaling pathways that result in the phosphorylation of Bad at Ser112 and Ser136 (2). Phosphorylation at these sites promotes binding of Bad to 14-3-3 proteins to prevent an association between Bad with Bcl-2 and Bcl-xl (2). Akt phosphorylates Bad at Ser136 to promote cell survival (3,4). Bad is phosphorylated at Ser112 both *in vivo* and *in vitro* by p90RSK (5,6) and mitochondria-anchored PKA (7). Phosphorylation of Ser155 in the BH3 domain by PKA plays a critical role in blocking the dimerization of Bad and Bcl-xL (8-10).

Knockdown of Bad expression by RNA interference enhances cell survival (11).

Directions for Use: CST recommends transfection with 100 nM Bad 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 (Fluorescein Conjugate) #6201 (-) or SignalSilence® Bad siRNA I (+), using Bad Antibody #9292 and p42 MAPK Antibody #9108. The Bad antibody confirms silencing of Bad expression, while the p42 MAPK antibody is used to control for loading and specificity of Bad siRNA.

Entrez-Gene ID #572
Swiss-Prot Acc. #Q92934

Storage: Bad 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) Yang, E. et al. (1995) *Cell* 80, 285–291.
(2) Zha, J. et al. (1996) *Cell* 87, 619–628.
(3) Datta, S.R. et al. (1997) *Cell* 91, 231–241.
(4) Peso, L. et al. (1997) *Science* 278, 687–689.
(5) Bonni, A. et al. (1999) *Science* 286, 1358–1362.
(6) Tan, Y. et al. (1999) *J. Biol. Chem.* 274, 34859–34867.
(7) Harada, H. et al. (1999) *Mol. Cell* 3, 413–422.
(8) Tan, Y. et al. (2000) *J. Biol. Chem.* 275, 25865–25869.
(9) Lizcano, J. et al. (2000) *Biochem. J.* 349, 547–557.
(10) Datta, S. et al. (2000) *Mol. Cell* 6, 41–51.
(11) Jin, Z. et al. (2004) *J Biol Chem* 279, 23837–44.

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.