

# SignalSilence® Bcl-2 siRNA I



✓ 10 µM in 300 µl (100 Transfections)

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

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

**Description:** SignalSilence® Bcl-2 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit Bcl-2 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.

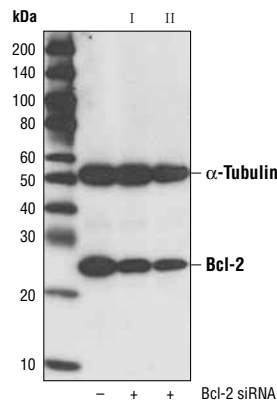
**Background:** Bcl-2 exerts a survival function in response to a wide range of apoptotic stimuli through inhibition of mitochondrial cytochrome c release (1). It has been implicated in modulating mitochondrial calcium homeostasis and proton flux (2). Several phosphorylation sites have been identified within Bcl-2 including Thr56, Ser70, Thr74 and Ser87 (3). It has been suggested that these phosphorylation sites may be targets of the ASK1/MKK7/JNK1 pathway, and that phosphorylation of Bcl-2 may be a marker for mitotic events (4,5). Mutation of Bcl-2 at Thr56 or Ser87 inhibits its anti-apoptotic activity during glucocorticoid-induced apoptosis of T lymphocytes (6). Interleukin 3 and JNK-induced Bcl-2 phosphorylation at Ser70 may be required for its enhanced anti-apoptotic functions (7).

Silencing Bcl-2 expression by RNA interference induces p53 dependent apoptosis (8).

**Directions for Use:** CST recommends transfection with 100 nM SignalSilence® Bcl-2 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® Bcl-2 siRNA I will inhibit human, mouse and rat Bcl-2 expression.



Western blot analysis of extracts from HeLa cells, transfected with 100 nM SignalSilence® Control siRNA (Fluorescein Conjugate) #6201 (-), SignalSilence® Bcl-2 siRNA I (+) or SignalSilence® Bcl-2 siRNA II #6516 (+), using Bcl-2 (50E3) Rabbit mAb and α-Tubulin (11H10) Rabbit mAb #2125. Bcl-2 (50E3) rabbit mAb confirms silencing of Bcl-2 expression, while the α-tubulin (11H10) rabbit mAb is used to control for loading and specificity of Bcl-2 siRNA.

Entrez-Gene ID #596  
Swiss-Prot Acc. #P10415

**Storage:** Bcl-2 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) Murphy, K.M. et al. (2000) *Cell Death Differ* 7, 102–11.
- (2) Zhu, L. et al. (1999) *J Biol Chem* 274, 33267–73.
- (3) Maundrell, K. et al. (1997) *J Biol Chem* 272, 25238–42.
- (4) Yamamoto, K. et al. (1999) *Mol Cell Biol* 19, 8469–78.
- (5) Ling, Y.H. et al. (1998) *J Biol Chem* 273, 18984–91.
- (6) Huang, S.T. and Cidlowski, J.A. (2002) *FASEB J* 16, 825–32.
- (7) Deng, X. et al. (2001) *J Biol Chem* 276, 23681–8.
- (8) Jiang, M. and Milner, J. (2003) *Genes Dev* 17, 832–7.