#12335 Store at -20°C

SignalSilence® Miz-1 siRNA I

☑ 10 µM in 300 µl (3 nmol)

Cell Signaling TECHNOLOGY®

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New 12/12

Entrez-Gene ID #7709
Swiss-Prot Acc. #Q13105

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

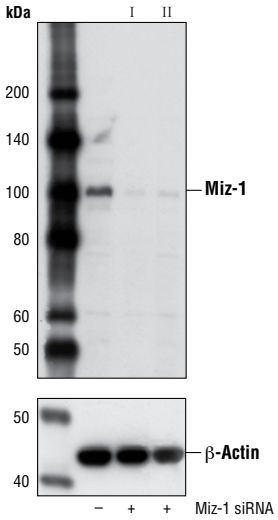
Description: SignalSilence® Miz-1 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit Miz-1 expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence® siRNA products from CST are rigorously tested in-house and have been shown to reduce target protein expression by western analysis.

Background: Miz-1 (Zbtb17) is a poxvirus and zinc finger (POZ) transcription factor with an amino-terminal BTB/POZ domain and 13 carboxy-terminal zinc finger domains. Miz-1 plays a key role in cell cycle control through activation of the cyclin-dependent kinase inhibitors p15, INK4B, and p21 Waf1/Cip1 (1-4). The transcriptional activity of Miz-1 is repressed through direct interaction with Myc (1-4). In the presence of DNA damage, Myc is recruited to the p21 Waf1/Cip1 promoter by Miz-1 and blocks p53-mediated induction of p21 Waf1/Cip1, ultimately resulting in p53-mediated apoptosis rather than cell cycle arrest (4). Miz-1 also plays a role during lymphocyte development. In developing B and T cells, Miz-1 represses suppressor of cytokine signaling 1 (SOCS1) expression, which enables signaling through the IL-7 receptor and upregulation of the pro-survival protein Bcl-2 (5,6).

Specificity/Sensitivity: SignalSilence® Miz-1 siRNA I inhibits human, mouse, rat, and monkey Miz-1 expression.

Directions for Use: CST recommends transfection with 100 nM SignalSilence® Miz-1 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.

Each vial contains the equivalent of 100 transfections, which corresponds to a final siRNA concentration of 100 nM per transfection in a 24-well plate with a total volume of 300 µl per well.



Western blot analysis of extracts from HaCaT cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-), SignalSilence® Miz-1 siRNA I (+), or SignalSilence® Miz-1 siRNA II #12405 (+), using Miz-1 Antibody #9044 (upper) or β-Actin (D6A8) Rabbit mAb #8457 (lower). The Miz-1 Antibody confirms silencing of Miz-1 expression, while the β-Actin (D6A8) Rabbit mAb is used as a loading control.

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.

Storage: Miz-1 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) Peukert, K. et al. (1997) *EMBO J.* 16, 5672–5686.
(2) Seoane, J. et al. (2001) *Nat. Cell Biol.* 3, 400–408.
(3) Staller, P. et al. (2001) *Nat. Cell Biol.* 3, 392–329.
(4) Seoane, J. et al. (2002) *Nature* 419, 729–734.
(5) Kosan, C. et al. (2010) *Immunity* 33, 917–928.
(6) Saba, I. et al. (2011) *Blood* 117, 3370–3381.

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.