#6356 Store at -20°C

SignalSilence® HSP27 siRNA I

☑ 300 µl
(50-100 transfections)

Cell Signaling TECHNOLOGY®

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

Species Cross-Reactivity: H, M, R

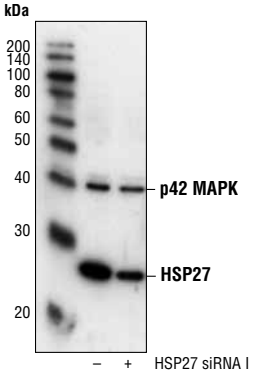
Description: SignalSilence® HSP27 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit HSP27 expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence® siRNA products from CST are rigorously tested in-house and have been shown to reduce target protein expression by western analysis.

Background: Heat shock protein (HSP) 27 is one of the small HSPs that are constitutively expressed at different levels in various cell types and tissues. Like other small heat shock proteins, HSP27 is regulated at both the transcriptional and posttranslational levels (1). In response to stress, the expression level of HSP27 increases several-fold to confer cellular resistance to the adverse environmental change. HSP27 is phosphorylated at Ser15, Ser78 and Ser82 by MAPKAP kinase 2 as a result of the activation of the p38 MAP kinase pathway (2,3). Phosphorylation of HSP27 causes a change in its tertiary structure, which shifts from large homotypic multimers to dimers and monomers (4). It has been shown that phosphorylation and increased concentration of HSP27 modulates actin polymerization and reorganization (5,6).

Small interfering RNA (siRNA) has been used to specifically silence HSP27 expression in HeLa cells (7).

Directions for Use: CST recommends transfection with 100nM HSP27 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 HSP27 siRNA I (+), using HSP27 (G31) Mouse mAb #2402 and p44/42 MAPK (Erk1/2) (3A7) Mouse mAb #9107. The HSP27 (G31) mAb confirms silencing of HSP27 expression and p44/42 MAPK mAb is used to control for loading and specificity of HSP27 siRNA.

Entrez-Gene ID #3315
UniProt ID #P04792

Storage: HSP27 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) Arrigo, A.P. and Landry, J. (1994) *Cold Spring Harbor Laboratory Press, NY,* 335-373.

(2) Landry, J. et al. (1992) *J. Biol. Chem.* 267, 794-803.

(3) Rouse, J. et al. (1994) *Cell* 78, 1027-1037.

(4) Rogalla, T. et al. (1999) *J. Biol. Chem.* 274, 18947-18956.

(5) Lavoie, J. et al. (1993) *J. Biol. Chem.* 268, 24210-24214.

(6) Rousseau, S. et al. (1997) *Oncogene* 15, 2169-2177.

(7) Park, K. et al. (2003) *J. Biol. Chem.* 278, 35272-35278.

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.