SignalSilence® Gelsolin siRNA I

#6469 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.

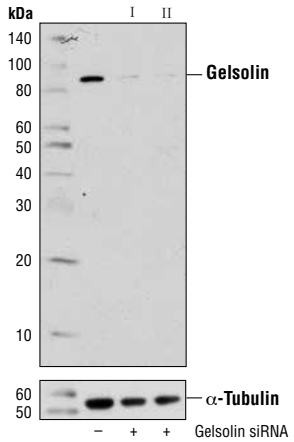
Species Cross-Reactivity: H

Description: SignalSilence® Gelsolin siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit gelsolin 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: Gelsolin (actin-depolymerizing factor, ADF, AGEL, Brevin) is an 83 kDa protein that shares structural and functional homology to villin and adseverin/scinderin (1,2). Gelsolin plays an important role in actin filament assembly by capping and severing actin proteins in a Ca^{2+}-dependent manner (3,4). Gelsolin is important for cellular events (e.g., membrane ruffling, chemotaxis, ciliogenesis) that require cytoskeletal remodeling (3); accordingly, cells from gelsolin knockout mice exhibit motility defects, including a failure to ruffle in response to growth factor stimulation (5,6). In humans, defects in gelsolin have been linked to amyloidosis type 5 (AMYL5), a hereditary disease characterized by cranial neuropathy, which appears to result from gelsolin amyloid deposition (7).

Directions for Use: CST recommends transfection with 100 nM SignalSilence® Gelsolin 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 (Unconjugated) #6568 (-), SignalSilence® Gelsolin siRNA I (+), or SignalSilence® Gelsolin siRNA II #6473 (+) using Gelsolin Antibody #8090 (upper) or α-Tubulin (11H10) Rabbit mAb #2125 (lower). The Gelsolin Antibody confirms silencing of gelsolin expression, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.

Entrez-Gene ID #2934
Swiss-Prot Acc. #P06396

Storage: Gelsolin 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) Vitale, M.L. et al. (1991) *J Cell Biol* 113, 1057-67.
(2) Lueck, A. et al. (1998) *J Cell Sci* 111 (Pt 24), 3633-43.
(3) Sun, H.Q. et al. (1999) *J Biol Chem* 274, 33179-82.
(4) Li, G.H. et al. (2010) *Med Res Rev*, Epub ahead of print.
(5) Azuma, T. et al. (1998) *EMBO J* 17, 1362-70.
(6) Lu, M. et al. (1997) *J Cell Biol* 138, 1279-87.
(7) Haltia, M. et al. (1990) *Biochem Biophys Res Commun* 167, 927-32.

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.