SignalSilence® HELLS siRNA I

#11822 Store at -20°C

☑ 10 µM in 300 µl (3 nmol)

Cell Signaling TECHNOLOGY®

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New 08/12

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

Species Cross-Reactivity: H

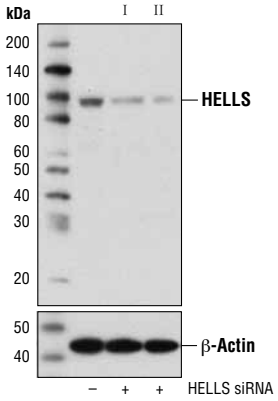
Description: SignalSilence® HELLS siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit HELLS expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence®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

Background: HELLS, or LSH1, is a lymphoid-specific helicase thought to be involved in cellular proliferation and leukemogenesis (1,2). It is believed to be a chromatin remodeler and is required for DNMT1-mediated methylation maintenance and DNMT3A/DNMT3B-mediated *de novo* methylation. The role of HELLS in methylation maintenance was thought to be largely confined to repetitive DNA sequences, including major and minor satellite sequences, rather than single copy genes (3,4); recent evidence suggests a role in genome-wide cysteine methylation at non-repeat sequences (5). *De novo* methylation maintenance is associated with silencing of specific genes, some known to be involved in pluripotency and lineage commitment (6,7).

Directions for Use: CST recommends transfection with 100 nM SignalSilence® HELLS 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.

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 DLD-1 cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-), SignalSilence® HELLS siRNA I (+), or SignalSilence® HELLS siRNA II #11823 (+), using HELLS Antibody #7998 (upper) or β-Actin (D6A8) Rabbit mAb #8457 (lower). The HELLS Antibody confirms silencing of HELLS expression, while the β-Actin (D6A8) Rabbit mAb is used as a loading control.

Entrez-Gene ID #3070
Swiss-Prot Acc. #Q9NRZ9

Storage: HELLS 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) Lee, D.W. et al. (2000) *Cancer Res* 60, 3612-22.
(2) Fan, T. et al. *Epigenetics* 3, 134-42.
(3) Dennis, K. et al. (2001) *Genes Dev* 15, 2940-4.
(4) Muegge, K. (2005) *Biochem Cell Biol* 83, 548-54.
(5) Tao, Y. et al. (2011) *Proc Natl Acad Sci USA* 108, 5626-31.
(6) Xi, S. et al. (2009) *Stem Cells* 27, 2691-702.
(7) Xi, S. et al. (2007) *Proc Natl Acad Sci USA* 104, 14366-71.

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.