#12372 Store at -20°C

SignalSilence® FLIP siRNA I

☑ 10 µM in 300 µl (3 nmol)

Cell Signaling TECHNOLOGY®

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New 10/12

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

Species Cross-Reactivity: H, (Mk)

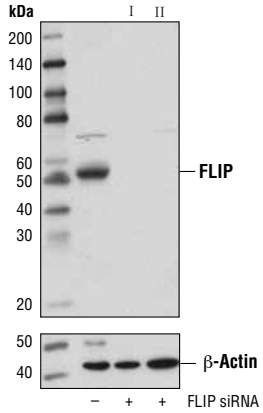
Description: SignalSilence® FLIP siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit FLIP expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence®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

Background: Cellular FLIP (FLICE inhibitory protein) is a regulator of apoptosis that has various names, such as c-FLIP (1), Casper (2), CLARP (3), FLAME (4), I-FLICE (5), MRIT (6), CASH (7), and Usurpin (8). FLIP is expressed as two alternative splice isoforms, FLIP short ($FLIP_S$) and FLIP long ($FLIP_L$). $FLIP_S$ contains two death effector domains (DEDs) like those found on the death receptor adaptor protein FADD and the pro-domain of caspase-8. $FLIP_L$ shares significant homology with caspase-8 (FLICE), and contains an additional death effector domain, but $FLIP_L$ lacks the catalytic active site of the caspases and does not have protease activity. Both FLIP isoforms have been reported to interact with FADD and pro-caspase-8. The role of FLIP in apoptosis is controversial as some research studies have reported it to be anti-apoptotic, while others claim that it is pro-apoptotic. Overexpression of $FLIP_L$ can lead to caspase-8 heterodimers that produce an active protease, resulting in apoptosis. However, at physiological levels, it is thought that the binding of FLIP to the DED of FADD results in inhibition of caspase-8 processing. Reduction of FLIP by siRNA or gene targeting sensitizes cells to death receptor-mediated apoptosis. FLIP has also been implicated in the resistance of cancer cells to apoptosis and is upregulated in some cancer types including Hodgkin's lymphoma and ovarian and colon carcinomas (9).

Specificity/Sensitivity: SignalSilence® FLIP siRNA I inhibits human and monkey FLIP expression.

Directions for Use: CST recommends transfection with 100 nM SignalSilence® FLIP 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 A549 cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-), SignalSilence® FLIP siRNA I (+), or SignalSilence® FLIP siRNA II #12407 (+), using FLIP (D16A8) Rabbit mAb #8510 (upper) or β-Actin (D6A8) Rabbit mAb #8457 (lower). The FLIP (D16A8) Rabbit mAb confirms silencing of FLIP 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.

Entrez-Gene ID #8837
Swiss-Prot Acc. #O15519

Storage: FLIP 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) Irmler, M. et al. (1997) *Nature* 388, 190-195.

(2) Shu, H. B. et al. (1997) *Immunity* 6, 751-763.

(3) Inohara, N. et al. (1997) *Proc. Natl. Acad. Sci. USA* 94, 10717-10722.

(4) Srinivasula, S. M. et al. (1997) *J. Biol. Chem.* 272, 18542-18545.

(5) Hu, S. et al. (1997) *J. Biol. Chem.* 272, 17255-17257.

(6) Han, D. K. et al. (1997) *Proc. Natl. Acad. Sci. USA* 94, 11333-11338.

(7) Dita, R. M. et al. (1998) *Cell Death Differ.* 5, 271-288.

(8) Goltsev, Y. V. et al. (1997) *J. Biol. Chem.* 272, 19641-19644.

(9) Kataoka, T. (2005) *Crit. Rev. Immunol.* 25, 31-58.

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.