Store at -20°C

#6354

SignalSilence® Stat3 siRNA II (Mouse Specific)

✓ 10 µM in 300 µl
(100 transfections)

Cell Signaling TECHNOLOGY®

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New 03/11

This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Entrez-Gene ID #20848
Swiss-Prot Acc. #P42227

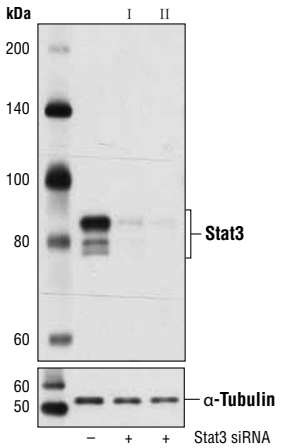
Species Cross-Reactivity: M

Description: SignalSilence® Stat3 siRNA II (Mouse Specific) from Cell Signaling Technology (CST) allows the researcher to specifically inhibit Stat3 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: The Stat3 transcription factor is an important signaling molecule for many cytokines and growth-factor receptors (1) and is required for murine fetal development (2). Stat3 is constitutively activated in a number of human tumors (3,4) and possesses oncogenic potential (5) and anti-apoptotic activities (3). Stat3 is activated by phosphorylation at Tyr705, which induces dimerization, nuclear translocation and DNA binding (6,7). Transcriptional activation seems to be regulated by phosphorylation at Ser727 through the MAPK or mTOR pathways (8,9). Stat3 isoform expression appears to reflect biological function as the relative expression levels of Stat3α (86 kDa) and Stat3β (79 kDa) depend on cell type, ligand exposure or cell maturation stage (10). It is notable that Stat3β lacks the serine phosphorylation site within the carboxy-terminal transcriptional activation domain (8).

Directions for Use: CST recommends transfection with 100 nM SignalSilence® Stat3 siRNA II (Mouse Specific) 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 NIH/3T3 cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-), SignalSilence® Stat3 siRNA I (Mouse Specific) #6353 (+), or SignalSilence® Stat3 siRNA II (Mouse Specific) (+) using Stat3 (124H6) Mouse mAb #9139 (upper) or α-Tubulin (11H10) Rabbit mAb #2125 (lower). The Stat3 (124H6) Mouse mAb confirms silencing of Stat3 expression, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.

Storage: Stat3 siRNA II (Mouse Specific) 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) Heim, M.H. (1999) *J. Recept. Signal Transduct. Res.* 19, 75-120.
(2) Takeda, K. et al. (1997) *Proc. Natl. Acad. Sci. USA* 94, 3801-3804.
(3) Catlett-Falcone, R. et al. (1999) *Immunity* 10, 105-115.
(4) Garcia, R. and Jove, R. (1998) *J. Biomed. Sci.* 5, 79-85.
(5) Bromberg, J.F. et al. (1999) *Cell* 98, 295-303.
(6) Darnell Jr., J.E. et al. (1994) *Science* 264, 1415-1421.
(7) Ihle, J.N. (1995) *Nature* 377, 591-594.
(8) Wen, Z. et al. (1995) *Cell* 82, 241-250.
(9) Yokogami, K. et al. (2000) *Curr. Biol.* 10, 47-50.
(10) Biethahn, S. et al. (1999) *Exp. Hematol.* 27, 885-894.

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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.