

#6353 Store at -20°C

SignalSilence® Stat3 siRNA I (Mouse Specific)

✓ 10 µM in 300 µl (100 transfections)



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

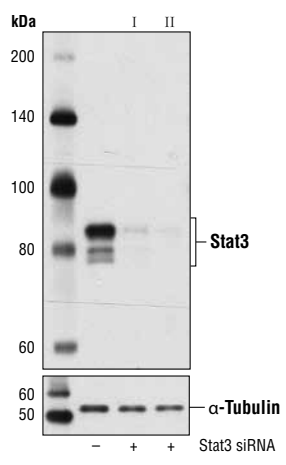
Species Cross-Reactivity: M

Description: SignalSilence® Stat3 siRNA I (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 I (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) (+), or SignalSilence® Stat3 siRNA II (Mouse Specific) #6354 (+) 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.

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

Storage: Stat3 siRNA I (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.