SignalSilence® Stat1 siRNA II

#6544 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.

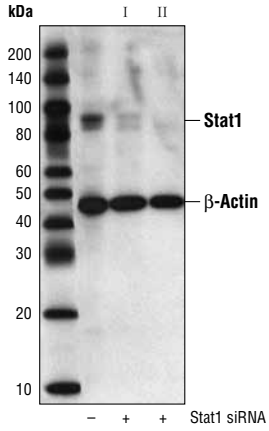
Species Cross-Reactivity: H, M, R

Description: SignalSilence® Stat1 siRNA II from Cell Signaling Technology (CST) allows the researcher to specifically inhibit Stat1 expression by 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 protein expression by western analysis.

Background: The Stat1 transcription factor is activated in response to a large number of ligands (1) and is essential for responsiveness to IFN-α and IFN-γ (2,3). Phosphorylation of Stat1 at Tyr701 induces Stat1 dimerization, nuclear translocation and DNA binding (4). Stat1 protein exists as a pair of isoforms, Stat1α (91 kDa) and the splice variant Stat1β (84 kDa). In most cells, both isoforms are activated by IFN-α, but only Stat1α is activated by IFN-γ. The inappropriate activation of Stat1 occurs in many tumors (5). In addition to tyrosine phosphorylation, Stat1 is also phosphorylated at Ser727 through a p38 mitogen-activated protein kinase (MAPK)-dependent pathway in response to IFN-α and other cellular stresses (6). Serine phosphorylation may be required for the maximal induction of Stat1-mediated gene activation.

Directions for Use: CST recommends transfection with 100 nM Stat1 siRNA II. Decreased Stat1 expression was observed 48 to 72 hours post-transfection. 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 (-) or SignalSilence® Stat1 siRNA I #6331 or SignalSilence® Stat1 siRNA II (+), using Stat1 Antibody #9172 and β-Actin (13E5) Rabbit mAb #4970. The Stat1 Antibody confirms silencing of Stat1 expression, while the β-Actin (13E5) Rabbit mAb is used as a loading control.

Entrez-Gene ID #6772
UniProt ID #P42224

Storage: Stat1 siRNA II 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) Durbin, J.E. et al. (1996) *Cell* 84, 443–450.

(3) Meraz, M.A. et al. (1996) *Cell* 84, 431–442.

(4) Ihle, J.N. et al. (1994) *Trends Biochem. Sci.* 19, 222–227.

(5) Frank, D.A. (1999) *Mol. Med.* 5, 432–456.

(6) Wen, Z. et al. (1995) *Cell* 82, 241–250.

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.