

SignalSilence® Stat1 siRNA II

✓ 10 µM in 300 µl
(100 Transfections)

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New 11/08

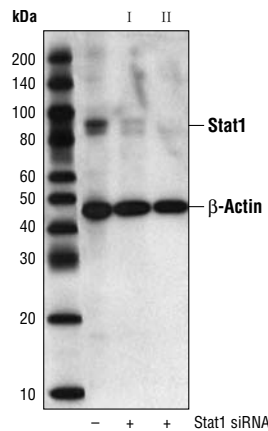
This product is for *in vitro* research use only and is not intended for use in humans or animals.
This product is not intended for use as a therapeutic or in diagnostic procedures.

Species Cross-Reactivity: H

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.



Western blot analysis of extracts from HeLa cells, transfected with 100 nM SignalSilence® Control siRNA (Fluorescein Conjugate) #6201 (-) 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 and β-Actin (13E5) Rabbit mAb is used to control for loading and specificity of Stat1 siRNA.

Entrez-Gene ID #6772
Swiss-Prot Acc. #P42224

Storage: Stat1 siRNA II is supplied in RNase-free water. Aliquot and store at -20°C.

Companion Products:

SignalSilence® Control siRNA (Fluorescein Conjugate) #6201

SignalSilence® Control siRNA (Unconjugated) #6568

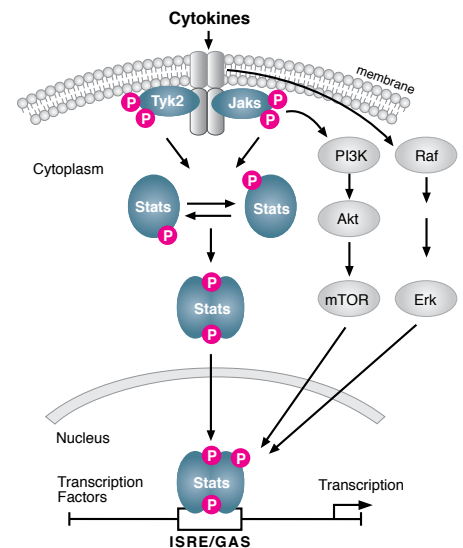
SignalSilence® Stat1 siRNA I #6331

SignalSilence® Stat1 siRNA Kit #6545

Stat1 Antibody #9172

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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.