SignalSilence® IRS-1 siRNA II (Mouse Specific)

#6374 Store at -20°C

☑ 10 µM in 300 µl
(100 transfections)

Cell Signaling TECHNOLOGY®

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New 03/11

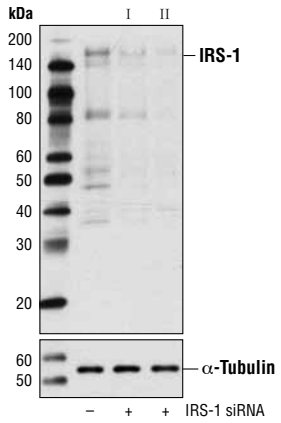
Species Cross-Reactivity: M

Description: SignalSilence® IRS-1 siRNA II (Mouse Specific) from Cell Signaling Technology (CST) allows the researcher to specifically inhibit IRS-1 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: Insulin receptor substrate 1 (IRS-1) is one of the major substrates of the insulin receptor kinase (1). IRS-1 contains multiple tyrosine phosphorylation motifs that serve as docking sites for SH2 domain-containing proteins that mediate the metabolic and growth-promoting functions of insulin (2-4). IRS-1 also contains over 30 potential serine/threonine phosphorylation sites. Ser307 of IRS-1 is phosphorylated by JNK (5) and IKK (6) while Ser789 is phosphorylated by SIK-2, a member of the AMPK family (7). The PKC and mTOR pathways mediate phosphorylation of IRS-1 at Ser612 and Ser636/639, respectively (8,9). Phosphorylation of IRS-1 at Ser1101 is mediated by PKCθ and results in an inhibition of insulin signaling in the cell, suggesting a potential mechanism for insulin resistance in some models of obesity (10).

Directions for Use: CST recommends transfection with 100 nM SignalSilence® IRS-1 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® IRS-1 siRNA I (Mouse Specific) #6346 (+), or SignalSilence® IRS-1 siRNA II (Mouse Specific) (+), using IRS-1 (59G8) Rabbit mAb #2390 (upper) or α-Tubulin (11H10) Rabbit mAb #2125 (lower). The IRS-1 (59G8) Rabbit mAb confirms silencing of IRS-1 expression, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.

Entrez-Gene ID #16367
Swiss-Prot Acc. #P35569

Storage: IRS-1 siRNA II (Mouse Specific) is supplied in RNAse-free water. *Aliquot and store at -20ºC.*

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

(1) Sun, X.J. et al. (1991) *Nature* 352, 73-77.
(2) Sun, X.J. et al. (1992) *J. Biol. Chem.* 267, 22662-22672.
(3) Myers Jr., M.G. et al. (1993) *Endocrinology* 132, 1421-1430.
(4) Wang, L.M. et al. (1993) *Science* 261, 1591-1594.
(5) Rui, L. et al. (1997) *J. Clin. Invest.* 107, 181-189.
(6) Gao, Z. et al. (2002) *J. Biol. Chem.* 277, 48115-48121.
(7) Horike, N. et al. (2003) *J. Biol. Chem.* 278, 18440-18447.
(8) Ozes, O.N. et al. (2001) *Proc. Natl. Acad. Sci. USA* 98, 4640-4645.
(9) De Fea, K. and Ruth, R.A. (1997) *Biochemistry* 36, 12939-12947.
(10) Li, Y. et al. (2004) *J. Biol. Chem.* 279, 45304-45307.

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.