#12473 Store at -20°C

SignalSilence® Fyn siRNA I

☑ 10 µM in 300 µl (3 nmol)

Cell Signaling TECHNOLOGY®

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

Species Cross-Reactivity: H, (Mk)

Description: SignalSilence® Fyn siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit Fyn 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.

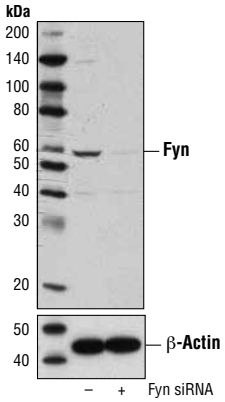
Background: The Src family of protein tyrosine kinases, which includes Src, Lyn, Fyn, Yes, Lck, Blk, and Hck, are important in the regulation of growth and differentiation of eukaryotic cells (1). Src activity is regulated by tyrosine phosphorylation at two sites, but with opposing effects. While phosphorylation at Tyr416 in the activation loop of the kinase domain upregulates enzyme activity, phosphorylation at Tyr527 in the carboxy-terminal tail by Csk renders the enzyme less active (2).

Fyn is a 59 kDa member of the Src family of tyrosine kinases. The carboxy terminus of Fyn shares extensive amino acid sequence homology with Src but is very different within the amino-terminal 81 amino acid residues. The Fyn protein is synthesized and N-myristoylated on cytosolic polysomes and then rapidly targeted to the plasma membrane, where it is palmitoylated (3). The corresponding sequences surrounding Tyr416 and Tyr527 of Src are conserved in Fyn and thus may be similarly regulated by phosphorylation. Dually acetylated Fyn clusters in caveolae-like membrane microdomains can interact with a variety of other signaling molecules. Fyn's biological functions are diverse and include signaling via the T cell receptor, regulation of brain function, and adhesion-mediated signaling (4, 5). Alteration of the levels of Fyn in appropriate target tissues may lead to better treatments for some related diseases.

Specificity/Sensitivity: SignalSilence® Fyn siRNA I inhibits human and monkey Fyn expression.

Directions for Use: CST recommends transfection with 100 nM SignalSilence® Fyn siRNA I 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.

Each vial contains the equivalent of 100 transfections, which corresponds to a final siRNA concentration of 100 nM per transfection in a 24-well plate with a total volume of 300 µl per well.



Western blot analysis of extracts from 293T cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-) or SignalSilence® Fyn siRNA I (+), using Fyn Antibody #4023 (upper) or β-Actin (D6A8) Rabbit mAb #8457 (lower). The Fyn Antibody confirms silencing of Fyn expression, while the β-Actin (D6A8) Rabbit mAb is used as a loading control.

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.

Entrez-Gene ID #2534
Swiss-Prot Acc. #P06241

Storage: Fyn siRNA I 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) Thomas, S.M. and Brugge, J.S. (1997) *Annu. Rev. Cell Dev. Biol.* 13, 513-609.

(2) Hunter, T. (1987) *Cell* 49, 1-4.

(3) Resh, M.D. (1998) *Int J Biochem Cell Biol* 30, 1159-62.

(4) Nel, A.E. (2002) *J Allergy Clin Immunol* 109, 758-70.

(5) Fukai, I. et al. (2000) *Eur J Immunol* 30, 3507-15.a

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.