#12229 Store at -20°C

SignalSilence® Sec24B siRNA I

☑ 10 µM in 300 µl (3 nmol)

Cell Signaling TECHNOLOGY®

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New 01/13

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

Species Cross-Reactivity: H, (Mk)

Description: SignalSilence® Sec24B siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit Sec24B 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.

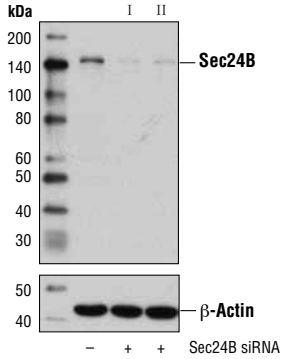
Background: Coat Protein Complex II (COPII) is composed of five cytosolic proteins: Sec23/24 complex, Sec13/31 complex, and Sar1. COPII coat is located at the ER/Golgi interface and is involved in transport of newly synthesized proteins from the ER to the Golgi apparatus (1). COPII formation is initiated through the binding of the activated G protein, Sar1, to the Sec23/24 complex, thereby forming a prebudding complex that directly binds target molecules (1-3). The prebudding complex further recruits Sec13/31 to form mature COPII coat (4,5). The Sec24 subunit of COPII coat is thought to play a critical role in cargo selection (2,6). It binds directly to cargo proteins at the ER and brings them to COPII vesicles through interaction with Sec23. There are four Sec24 isoforms in human cells: Sec24A, Sec24B, Sec24C, and Sec24D (7). In mice, mutations in Sec24B have been linked to developmental defects (8,9).

Specificity/Sensitivity: SignalSilence® Sec24B siRNA I inhibits human and monkey Sec24B expression.

Directions for Use: CST recommends transfection with 100 nM SignalSilence® Sec24B 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.

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 (-), SignalSilence® Sec24B siRNA I (+), or SignalSilence® Sec24B siRNA II #12333 (+), using Sec24B Antibody #7427 (upper) or β-Actin (D6A8) Rabbit mAb #8457 (lower). The Sec24B Antibody confirms silencing of Sec24B expression, while the β-Actin (D6A8) Rabbit mAb is used as a loading control.

Entrez-Gene ID #10427
Swiss-Prot Acc. #O95487

Storage: Sec24B 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) Aridor, M. et al. (1998) *J Cell Biol* 141, 61-70.

(2) Miller, E.A. et al. (2003) *Cell* 114, 497-509.

(3) Mossessova, E. et al. (2003) *Cell* 114, 483-95.

(4) Barlowe, C. et al. (1994) *Cell* 77, 895-907.

(5) Bi, X. et al. (2007) *Dev Cell* 13, 635-45.

(6) Miller, E. et al. (2002) *EMBO J* 21, 6105-13.

(7) Tang, B.L. et al. (1999) *Biochem Biophys Res Commun* 258, 679-84.

(8) Merte, J. et al. (2010) *Nat Cell Biol* 12, 41-6; sup pp 1-8.

(9) Wansleeben, C. et al. (2010) *Development* 137, 1067-73.

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.