# SignalSilence® Rabex-5 siRNA I

#6437 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.**

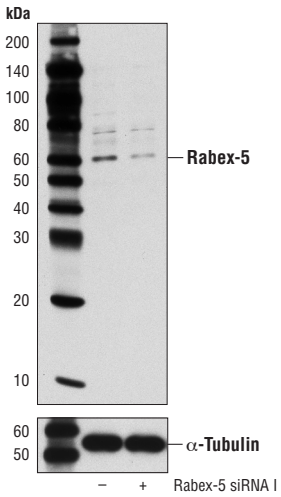
**Species Cross-Reactivity: H**

**Description:** SignalSilence® Rabex-5 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit Rabex-5 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:** Rabex-5, also called RabGEF1 and RAP1, was identified as a guanine nucleotide exchange factor (GEF) for Rab5, a member of the Ras superfamily of small Rab GTPases (1). Rabex-5 generates the GTP-bound active form of Rab5 and forms a tight association with its effector protein Rabaptin-5 (2). This complex localizes to endosomal membranes where it functions as a key regulator of vesicular trafficking during early endocytosis (3,4). Rabex-5 is also monoubiquitinated and has ubiquitin ligase activity that regulates its recruitment to early endosomes (5,6). The conformational change between Rab5 GTP/GDP states is essential for its biological function as a rate limiting regulator at multiple steps during endocytosis (5). Through its control of endosomal trafficking and endocytosis, Rabex-5 has been shown to negatively regulate NGF-mediated neurite outgrowth (7) as well as FcεRI-dependent mast cell activation (8).

**Directions for Use:** CST recommends transfection with 100 nM Rabex-5 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.

**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 SH-SY5Y cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-) or SignalSilence® Rabex-5 siRNA I (+), using Rabex-5 (D21F12) Rabbit mAb #7622 (upper) or α-Tubulin (11H10) Rabbit mAb #2125 (lower). The Rabex-5 (D21F12) Rabbit mAb confirms silencing of Rabex-5 expression, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.*

**Entrez-Gene ID** #27342
**Swiss-Prot Acc.** #Q9UJ41

**Storage:** Rabex-5 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) Horiuchi, H. et al. (1997) *Cell* 90, 1149-59.
(2) Lippé, R. et al. (2001) *Mol Biol Cell* 12, 2219-28.
(3) Zerial, M. and McBride, H. (2001) *Nat Rev Mol Cell Biol* 2, 107-17.
(4) van der Bliek, A.M. (2005) *Nat Cell Biol* 7, 548-50.
(5) Mattera, R. et al. (2006) *J Biol Chem* 281, 6874-83.
(6) Mattera, R. and Bonifacino, J.S. (2008) *EMBO J* 27, 2484-94.
(7) Liu, J. et al. (2007) *Mol Biol Cell* 18, 1375-84.
(8) Tam, S.Y. et al. (2004) *Nat Immunol* 5, 844-52.



**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.