#6316 Store at -20°C

# SignalSilence® Merlin siRNA I

☑ 10 µM in 300 µl
(100 transfections)

Cell Signaling TECHNOLOGY®

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

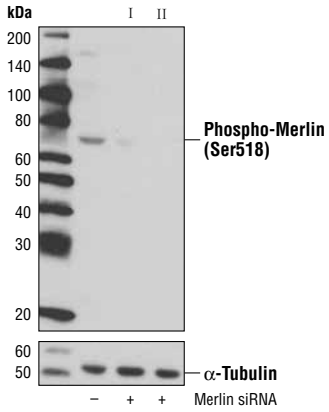
**Species Cross-Reactivity: H**

**Description:** SignalSilence® Merlin siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit Merlin 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:** Neurofibromatosis 2 (NF2) is an autosomal dominant inherited disorder that is characterized by the occurrence of vestibular schwannomas, meningiomas and other nervous system tumors. Both the familial tumors of NF2 and equivalent sporadic tumors in the general population are caused by inactivation of the NF2 tumor suppressor gene. Merlin (moesin, ezrin and radixin like protein), the NF2 gene product, has striking similarity to ezrin, radixin and moesin (ERM). Regulation of merlin (aka schwannomin) and ERM proteins involves intramolecular and intermolecular head-to-tail associations between family members (1). Merlin and ERM proteins act as linkers between the plasma membrane and the cytoskeleton, affecting cell morphology, polarity and signal transduction (2). Merlin is phosphorylated by the Rac/Cdc42 effector p21-activated kinase (PAK) at Ser518, negatively regulating Rac (3,4).

**Directions for Use:** CST recommends transfection with 100 nM Merlin 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 PC3 cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-), SignalSilence® Merlin siRNA I (+) or SignalSilence® Merlin siRNA II #6338 (+), using Phospho-Merlin (Ser518) Antibody #9163 (upper) or α-Tubulin (11H10) Rabbit mAb #2125 (lower). The Phospho-Merlin (Ser518) Antibody confirms silencing of Merlin expression, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.*

**Entrez-Gene ID** #4771
**Swiss-Prot Acc.** #P35240

**Storage:** Merlin siRNA I 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) Ramesh, V. (2004) *Nat. Rev. Neurosci.* 5, 462-470.

(2) Bretscher, A. et al. (2002) *Nat. Rev. Mol. Cell Biol.* 3, 586-599.

(3) Xiao, G. H. et al. (2002) *J. Biol. Chem.* 277, 883-886.

(4) Kissil, J. L. et al. (2003) *Mol. Cell* 12, 841-849.



**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.