SignalSilence® CAND1 siRNA I

#9824 Store at -20°C

☑ 10 µM in 300 µl
(100 Transfections)

Cell Signaling TECHNOLOGY®

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rev. 04/27/16

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

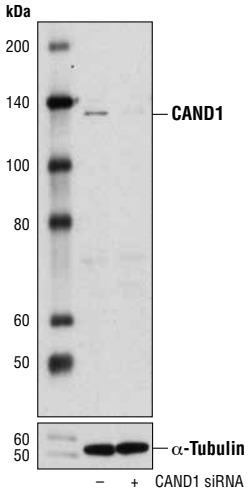
Species Cross-Reactivity: H

Description: SignalSilence® CAND1 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit CAND1 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: CAND1 (cullin-associated and neddylation-dissociated)/TIP120A is a protein containing multiple HEAT repeats. It functions, in part, as an inhibitor of multiple cullin-RING ubiquitin ligases (CRLs) via binding to cullin-RBX complexes that are both unconjugated to NEDD8 and lack association with substrate recognition subunits (1-3). Indeed, CAND1 has been shown to bind all cullin family members in human cells and analysis of the crystal structure of human CAND1 bound to the CUL1-Rbx1 complex suggests that CAND1 inhibits the activity of CRLs by sterically blocking both the substrate recognition subunit binding site and the NEDD8 conjugation site (1,3,4). Conversely, CAND1 binding to cullin-RBX complexes is incompatible with neddylation as NEDD8 conjugated to cullins blocks CAND1 binding, suggesting that CAND1 binds to cullins only after the COP9 signalosome has catalyzed cullin deneddylation. Through its ability to negatively regulate CRL assembly, CAND1 plays an integral part in facilitating CRL activation cycles that allow CRLs to utilize ditinct substrate recognition subunits, and protect these subunits from undergoing ubiquitin-dependent degradation (5-7).

Directions for Use: CST recommends transfection with 100 nM SignalSilence® CAND1 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 293 cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-) or SignalSilence® CAND1 siRNA I (+), using CAND1 Antibody #7433 (upper) or α-Tubulin (11H10) Rabbit mAb #2125 (lower). The CAND1 Antibody confirms silencing of CAND1 expression, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.

Entrez-Gene ID #55832
Swiss-Prot Acc. #Q86VP6

Storage: CAND1 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) Liu, J. et al. (2002) *Mol Cell* 10, 1511-8.
(2) Zheng, J. et al. (2002) *Mol Cell* 10, 1519-26.
(3) Min, K.W. et al. (2003) *J Biol Chem* 278, 15905-10.
(4) Goldenberg, S.J. et al. (2004) *Cell* 119, 517-28.
(5) Wee, S. et al. (2005) *Nat Cell Biol* 7, 387-91.
(6) Wu, J.T. et al. (2005) *Nat Cell Biol* 7, 1014-20.
(7) Cope, G.A. and Deshaies, R.J. (2006) *BMC Biochem* 7, 1.

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.