#3500 Store at -20°C

SignalSilence® cdc2 siRNA I

☑ 10µM in 300 µl
(100 transfections)

Cell Signaling TECHNOLOGY®

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info@cellsignal.com
Web ■ www.cellsignal.com

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

Species Cross-Reactivity: H, (M)

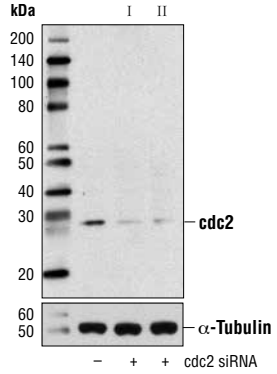
Description: SignalSilence® cdc2 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit cdc2 expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence® siRNA products from CST are rigorously tested in-house and have been shown to reduce target protein expression by western analysis.

Background: The entry of eukaryotic cells into mitosis is regulated by cdc2 kinase activation, a process controlled at several steps including cyclin binding and phosphorylation of cdc2 at Thr161 (1). However, the critical regulatory step in activating cdc2 during progression into mitosis appears to be dephosphorylation of cdc2 at Thr14 and Tyr15 (2). Phosphorylation at Thr14 and Tyr15, resulting in inhibition of cdc2, can be carried out by Wee1 and Myt1 protein kinases (3,4). The cdc25 phosphatase may be responsible for removal of phosphates at Thr14 and Tyr15 and subsequent activation of cdc2 (1,5).

Specificity/Sensitivity: SignalSilence® cdc2 siRNA I will inhibit human and mouse cdc2 expression.

Directions for Use: CST recommends transfection with 100 nM SignalSilence® cdc2 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 HeLa cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-), SignalSilence® cdc2 siRNA I (+) or SignalSilence® cdc2 siRNA II #3600 (+), using cdc2 (POH1) Mouse mAb #9116 (upper) or α-Tubulin (11H10) Rabbit mAb #2125 (lower). The cdc2 (POH1) Mouse mAb confirms silencing of cdc2 expression, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.

Entrez-Gene ID #983
Swiss-Prot Acc. #P06493

Storage: cdc2 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) Atherton-Fessler, S. et al. (1994) *Mol. Biol. Cell.* 5, 989-1001.

(2) Norbury, C. et al. (1991) *EMBO. J.* 10, 3321-3329.

(3) McGowan, C.H. and Russell, P. (1993) *EMBO J.* 12, 75-85.

(4) Wells, N.J. et al. (1999) *J. Cell. Sci.* 112, 3361-3371.

(5) Hunter, T. (1995) *Cell* 80, 225-236.

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.