SignalSilence® CDK8 siRNA I

#6438 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, (M, R)

Description: SignalSilence® CDK8 siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit CDK8 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 mammalian Mediator Complex is a multi-subunit protein complex that couples specific transcriptional regulators to RNA polymerase II (Pol II) and the basal transcription machinery. Interactions between distinct Mediator subunits and transcription factors allow for specific gene regulation (reviewed in 1).

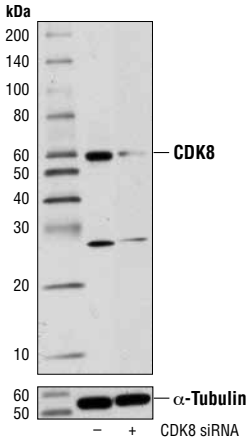
Mediator complex interactions control various biological processes including insulin signaling (2), NF-κB-dependent signaling (3), stem cell pluripotency and self renewal (4,5), and proliferation of colon cancer cells (6,7).

CDK8/Cyclin C, along with Med12 and Med13, constitutes a subcomplex within the Mediator Complex thought to act as a molecular switch, inhibiting Pol II recruitment and transcription initiation (8,9). Expression of CDK8 abrogates E2F1-dependent inhibition of β-catenin activity in colon cancer cells (9). High levels of CDK8 coincide with high β-catenin-dependent transcription in colon cancer cells, and their proliferation can be inhibited by suppressing CDK8 expression (8).

Specificity/Sensitivity: CDK8 siRNA I inhibits human, mouse, and rat CDK8 expression. lot-to-lot consistency.

Directions for Use: CST recommends transfection with 100 nM SignalSilence® CDK8 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® CDK8 siRNA I (+), using CDK8 (G398) Antibody #4101 and α-Tubulin (11H10) Rabbit mAb #2125. The CDK8 (G398) Antibody confirms silencing of CDK8 expression, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.

Entrez-Gene ID #1024
Swiss-Prot Acc. #P49336

Storage: CDK8 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) Malik, S. and Roeder, R.G. (2005) *Trends Biochem Sci* 30, 256-63.

(2) Wang, W. et al. (2009) *Dev Cell* 16, 764-71.

(3) van Essen, D. et al. (2009) *PLoS Biol* 7, e73.

(4) Tutter, A.V. et al. (2009) *J Biol Chem* 284, 3709-18.

(5) Varelas, X. et al. (2008) *Nat Cell Biol* 10, 837-48.

(6) Firestein, R. et al. (2008) *Nature* 455, 547-51.

(7) Morris, E.J. et al. (2008) *Nature* 455, 552-6.

(8) Knuesel, M.T. et al. (2009) *Mol Cell Biol* 29, 650-61.

(9) Knuesel, M.T. et al. (2009) *Genes Dev* 23, 439-51.

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.