SignalSilence® DDX5 siRNA II

#8627 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)

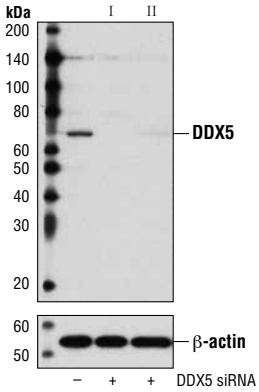
Description: SignalSilence® DDX5 siRNA II from Cell Signaling Technology (CST) allows the researcher to specifically inhibit DDX5 expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence® siRNA products from CST are rigorously tested in-house and have been shown to reduce target protein expression by western analysis.

Background: DDX5 (DEAD box polypeptide 5), also known as p68, was first identified as a 68 kDa nuclear protein with similarity to translation initiation factor eIF-4A (1). DDX5 is a member of the DEAD box family of putative RNA helicases, defined by the presence of a conserved DEAD (Asp-Glu-Ala-Asp) motif that appears to function primarily in the regulation of RNA secondary structure. DDX5 exhibits ATP-dependent RNA helicase activity (2) and has been identified as a critical subunit of the DROSHA complex that regulates miRNA and rRNA processing (3,4). DDX may also regulate mRNA splicing (5) and has been shown to interact with HDAC1, where it can regulate promoter-specific transcription (6). DDX5 interacts with a diverse group of proteins, including Runx2, p53, Smad3, CBP, and p300 (7-10), suggesting an important role for DDX5 in a multitude of developmental processes. Notably, DDX5 may be involved in growth factor-induced epithelial mesechymal transition (EMT). Phosphorylation of DDX5 at Tyr593 following PDGF stimulation was shown to displace Axin from β-catenin; this prevented phosphorylation of β-catenin by GSK-3β, leading to Wnt-independent nuclear translocation of β-catenin (11) and increased transcription of c-Myc, cyclin D1, and Snai1 (12,13).

Directions for Use: CST recommends transfection with 100 nM SignalSilence® DDX5 siRNA II 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.

Specificity/Sensitivity: SignalSilence® DDX5 siRNA II will inhibit human and mouse DDX5 expression.

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® DDX5 siRNA I #8626 (+) or SignalSilence® DDX5 siRNA II (+), using DDX5 (D15E10) XP® Rabbit mAb #9877 (upper) or β-Actin (13E5) Rabbit mAb #4970 (lower). The DDX5 (D15E10) XP® Rabbit mAb confirms silencing of DDX5 expression, while the β-Actin (13E5) Rabbit mAb is used as a loading control.

Entrez-Gene ID #1655
Swiss-Prot Acc. #P17844

Storage: DDX5 siRNA II 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) Ford, M.J. et al. (1988) *Nature* 332, 736-8.
(2) Hirling, H. et al. (1989) *Nature* 339, 562-4.
(3) Fukuda, T. et al. (2007) *Nat Cell Biol* 9, 604-11.
(4) Davis, B.N. et al. (2008) *Nature* 454, 56-61.
(5) Camats, M. et al. (2008) *PLoS ONE* 3, e2926.
(6) Wilson, B.J. et al. (2004) *BMC Mol Biol* 5, 11.
(7) Jensen, E.D. et al. (2008) *J Cell Biochem* 103, 1438-51.
(8) Bates, G.J. et al. (2005) *EMBO J* 24, 543-53.
(9) Warner, D.R. et al. (2004) *Biochem Biophys Res Commun* 324, 70-6.
(10) Rossow, K.L. and Janknecht, R. (2003) *Oncogene* 22, 151-6.
(11) Yang, L. et al. (2006) *Cell* 127, 139-55.
(12) Yang, L. et al. (2007) *J Biol Chem* 282, 16811-9.
(13) Carter, C.L. et al. (2010) *Oncogene* 29, 5427-36.

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.