Store at -20°C

#14010

SignalSilence® VPRBP siRNA I

www.cellsignal.com

Support: 877-678-TECH (8324)
info@cellsignal.com

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New 07/14

Entrez-Gene ID #9730
UniProt ID #Q9Y4B6

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

Species Cross-Reactivity: H

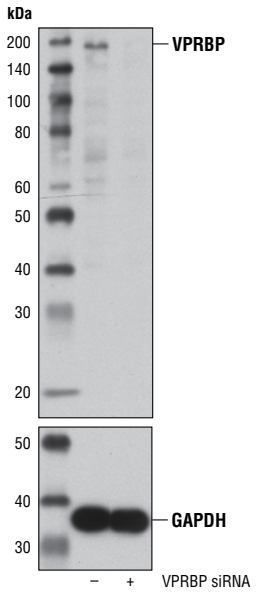
Description: SignalSilence® VPRBP siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit VPRBP expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence®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

Background: The HIV-1 viral protein R (Vpr)-binding protein (VPRBP, DCAF1) is a substrate-specific adaptor for the CUL4-based ubiquitin ligase complex that consists of CUL4A, RBX1, and DDB1 (1). VPRBP protein structure contains a central LIS1 homology (LisH) motif responsible for dimerization, and two carboxy-terminal WD-40 motifs involved in Vpr and DDB1 binding (2-4). Research studies demonstrate that VPRBP plays a role in hepatic lipid metabolism by promoting the ubiquitin-dependent proteasomal degradation of the TR4 nuclear receptor, which is involved in lipid homeostasis (5). The VPRBP protein plays a role in mammalian germ cell development through regulation of TET methylcytosine dioxygenase activation (6). Additional studies show that VPRBP exhibits kinase activity and phosphorylates histone H2A at Ser120, which blocks tumor suppressor gene transcription (7). The tumor suppressor Merlin/NF2 inhibits tumorigenesis through interaction with and suppression of the CUL4A-RBX1-DDB1-VPRBP complex (8).

Directions for Use: CST recommends transfection with 100 nM SignalSilence® VPRBP 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.

Each vial contains the equivalent of 100 transfections, which corresponds to a final siRNA concentration of 100 nM per transfection in a 24-well plate with a total volume of 300 µl per well.

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 HL-60 cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-) or SignalSilence® VPRBP siRNA I (+), using VPRBP Antibody #13931 and GAPDH (D16H11) XP® Rabbit mAb #5174. The VPRBP Antibody confirms silencing of VPRBP expression, while the GAPDH (D16H11) XP® Rabbit mAb is used as a loading control.

Storage: VPRBP siRNA I is supplied in RNAse-free water. *Aliquot and store at -20°C.*

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com

Background References:

(1) Lee, J. and Zhou, P. (2007) *Mol Cell* 26, 775-80.
(2) Le Rouzic, E. et al. (2007) *Cell Cycle* 6, 182-8.
(3) Zhang, S. et al. (2001) *Gene* 263, 131-40.
(4) Le Rouzic, E. et al. (2008) *J Biol Chem* 283, 21686-92.
(5) Yoshizawa, T. et al. (2014) *Cell Metab* 19, 712-21.
(6) Yu, C. et al. (2013) *Science* 342, 1518-21.
(7) Kim, K. et al. (2013) *Mol Cell* 52, 459-67.
(8) Li, W. et al. (2010) *Cell* 140, 477-90.

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Cell Signaling TECHNOLOGY®

Applications: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity:** **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.