SignalSilence® VIMP siRNA I

#13803 Store at -20°C

Cell Signaling TECHNOLOGY®

Orders ■ 877-616-CELL (2355)
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info@cellsignal.com
Web ■ www.cellsignal.com

New 03/14

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

Species Cross-Reactivity: H

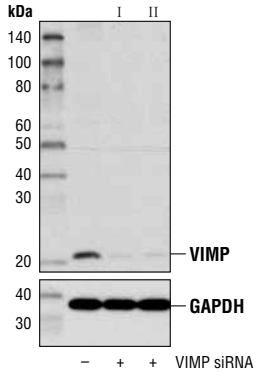
Description: SignalSilence® VIMP siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit VIMP expression using RNA interference, a method whereby gene expression can be selectively silenced through the delivery of double stranded RNA molecules into the cell. All SignalSilence®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

Background: VCP-interacting membrane protein (VIMP, selenoprotein S) is a putative reductase and endoplasmic reticulum (ER)-resident protein involved in the ER-associated degradation (ERAD) pathway (1,2). Research studies indicate that VIMP may play a protective role against inflammation and reduce ER-stress (3). The VIMP protein is a single-pass, transmembrane protein that recruits the cytosolic p97/VCP AAA-ATPase and its cofactors, UFD1 and NPL4, to the ER membrane (4). An ER membrane complex containing Derlin-1 and VIMP forms a critical node in the ERAD machinery and links substrate recognition in the ER lumen with the retrotranslocation function of the p97/VCP AAA-ATPase in the cytosol (1,4). Polymorphisms in the corresponding *VIMP* gene are associated with spontaneous preterm births and cardiovascular disease risk (5,6) while other studies do not support a correspondence between *VIMP* polymorphisms and inflammatory disorders (7).

Directions for Use: CST recommends transfection with 100 nM SignalSilence® VIMP siRNA I 48 to 72 hours prior to cell lysis. For transfection procedure, follow the 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 293T cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-), SignalSilence® VIMP siRNA I (+), or SignalSilence® VIMP siRNA II #13818 (+), using VIMP Antibody #13738 (upper) or GAPDH (D16H11) XP® Rabbit mAb #5174 (lower). The VIMP Antibody confirms silencing of VIMP expression, while the GAPDH (D16H11) XP® Rabbit mAb is used as a loading control.

Entrez-Gene ID #55829
UniProt Acc. #Q9BQE4

Storage: VIMP siRNA I is supplied in RNAse-free water. *Aliquot and store at -20ºC.*

For product specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

(1) Lilley, B.N. and Ploegh, H.L. (2005) *Proc Natl Acad Sci U S A* 102, 14296-301.

(2) Christensen, L.C. et al. (2012) *J Biol Chem* 287, 26388-99.

(3) Fradejas, N. et al. (2011) *Glia* 59, 959-72.

(4) Ye, Y. et al. (2004) *Nature* 429, 841-7.

(5) Wang, Y. et al. (2013) *PLoS One* 8, e65657.

(6) Cox, A.J. et al. (2013) *Acta Diabetol* 50, 391-9.

(7) Martínez, A. et al. (2008) *BMC Genomics* 9, 329.

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.