SignalSilence® RMP siRNA I

#6464 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.

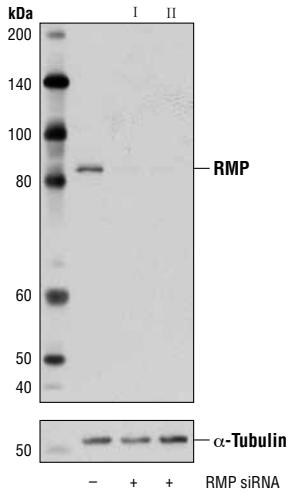
Species Cross-Reactivity: H

Description: SignalSilence® RMP siRNA I from Cell Signaling Technology (CST) allows the researcher to specifically inhibit RMP 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: RMP (RPB5-Mediating Protein), also known as URI (Unconventional prefoldin RBP5 Interactor), was described as an unconventional member of the prefoldin (PFD) family of chaperones that are involved in actin and tubulin folding (1-4). Like conventional members of the α-class of PFDs, RMP contains N- and C-terminal α-helical coiled-coil structures connected by two β hairpins. In addition, RMP possesses an RPB5-binding segment and a long C-terminal acidic segment. It is posited that RMP exists as a component of a macromolecular complex within human cells and functions as a molecular scaffold to assemble a PFD complex containing other PFDs and proteins with functions in transcription and ubiquitination. Indeed, evidence is provided that RMP negatively modulates RNA polymerase II-dependent transcription by binding to TFIIF (5) and RBP5 (6) and is involved in mTOR signaling by coordinating the regulation of nutrient availability with gene expression (1). In accord with its ability to coordinate gene expression with nutrient availability, RMP was shown to be a mitochondrial substrate of S6K1. S6K1-mediated phosphorylation of RMP at Ser371 triggers a series of biochemical events that constitute a negative feedback loop, in part, aimed at restraining S6K1 survival signaling and ensuring that the mitochondrial threshold for apoptosis corresponds to availability of nutrients and growth factors (7).

Directions for Use: CST recommends transfection with 100 nM RMP 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® RMP siRNA I (+) or SignalSilence® RMP siRNA II #6495 (+), using RMP Antibody #5844 (upper) or α-Tubulin (11H10) Rabbit mAb #2125 (lower). The RMP Antibody confirms silencing of RMP expression, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.

Entrez-Gene ID # 8725
Swiss-Prot Acc. # O94763

Storage: RMP 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) Gstaiger, M. et al. (2003) *Science* 302, 1208-12.
(2) Vainberg, I.E. et al. (1998) *Cell* 93, 863-73.
(3) Martín-Benito, J. et al. (2002) *EMBO J* 21, 6377-86.
(4) Geissler, S. et al. (1998) *EMBO J* 17, 952-66.
(5) Wei, W. et al. (2003) *Cell Res* 13, 111-20.
(6) Dorjsuren, D. et al. (1998) *Mol Cell Biol* 18, 7546-55.
(7) Djouder, N. et al. (2007) *Mol Cell* 28, 28-40.

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.