Revision 1

Store at -20C

#5844

RMP Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R Mk	Endogenous	79	Rabbit	#O94763	8725

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

RMP Antibody recognizes endogenous levels of total RMP protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human RMP protein. Antibodies are purified by protein A and peptide affinity chromatography.

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).

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.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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