

Anti-RPTOR antibody



Description	Unconjugated Rabbit polyclonal to RPTOR
Model	STJ190148
Host	Rabbit
Reactivity	Human
Applications	ELISA, WB
Immunogen	Synthesized peptide derived from human RPTOR protein.
Immunogen Region	730-810aa
Gene ID	57521
Gene Symbol	RPTOR
Dilution range	WB 1:500-2000 ELISA 1:5000-20000
Specificity	RPTOR Polyclonal Antibody detects endogenous levels of protein.
Tissue Specificity	Highly expressed in skeletal muscle, and in a lesser extent in brain, lung, small intestine, kidney and placenta. Isoform 3 is widely expressed, with highest levels in nasal mucosa and pituitary and lowest in spleen.
Purification	RPTOR antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	Regulatory-associated protein of mTOR Raptor p150 target of rapamycin TOR-scaffold protein
Molecular Weight	146 kDa

Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid form in PBS containing 50% glycerol, and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:30287OMIM:607130
Alternative Names	Regulatory-associated protein of mTOR Raptor p150 target of rapamycin TOR-scaffold protein
Function	Involved in the control of the mammalian target of rapamycin complex 1 (mTORC1) activity which regulates cell growth and survival, and autophagy in response to nutrient and hormonal signals; functions as a scaffold for recruiting mTORC1 substrates. mTORC1 is activated in response to growth factors or amino acids. Growth factor-stimulated mTORC1 activation involves a AKT1-mediated phosphorylation of TSC1-TSC2, which leads to the activation of the RHEB GTPase that potently activates the protein kinase activity of mTORC1. Amino acid-signaling to mTORC1 requires its relocalization to the lysosomes mediated by the Ragulator complex and the Rag GTPases. Activated mTORC1 up-regulates protein synthesis by phosphorylating key regulators of mRNA translation and ribosome synthesis. mTORC1 phosphorylates EIF4EBP1 and releases it from inhibiting the elongation initiation factor 4E (eIF4E). mTORC1 phosphorylates and activates S6K1 at 'Thr-389', which then promotes protein synthesis by phosphorylating PDCD4 and targeting it for degradation. Involved in ciliogenesis.
Cellular Localization	Cytoplasm. Lysosome. Cytoplasmic granule. Targeting to lysosomes depends on amino acid availability. In arsenite-stressed cells, accumulates in stress granules when associated with SPAG5 and association with lysosomes is drastically decreased.
Post-translational Modifications	Insulin-stimulated phosphorylation at Ser-863 by MTOR and MAPK8 up-regulates mTORC1 activity. Osmotic stress also induces phosphorylation at Ser-696, Thr-706 and Ser-863 by MAPK8. Ser-863 phosphorylation is required for phosphorylation at Ser-855 and Ser-859. In response to nutrient limitation, phosphorylated by AMPK; phosphorylation promotes interaction with 14-3-3 proteins, leading to negative regulation of the mTORC1 complex. In response to growth factors, phosphorylated at Ser-719, Ser-721 and Ser-722 by RPS6KA1, which stimulates mTORC1 activity.