

mTOR (Phospho-Ser2481) Antibody FITC Conjugated

Catalog No: #C04743F

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Description

Product Name	mTOR (Phospho-Ser2481) Antibody FITC Conjugated
Host Species	Rabbit
Clonality	Polyclonal
Isotype	IgG
Purification	Purified by Protein A.
Applications	Flow-Cyt IF
Species Reactivity	HuB MsB RtB B B B B B
Immunogen Description	KLH conjugated synthetic phosphopeptide aa 2450-2500 2549 derived from human mTOR around the phosphorylation site of Ser2481
Conjugates	FITC
Target Name	mTOR Ser2481
Other Names	FRAP; FRAP1; FRAP2; RAFT1; RAPT1; Serine threonine-protein kinase mTOR; FK506-binding protein 12-rapamycin complex-associated protein 1; FKBP12-rapamycin complex-associated protein; Mammalian target of rapamycin; mTOR; Mechanistic target of rapamycin; Rapamycin and FKBP12 target 1; Rapamycin target
Accession No.	Swiss-Prot#P42345NCBI Gene ID2475
Uniprot	P42345
GeneID	2475;
Excitation Emission	494nm 518nm
Cell Localization	Cytoplasm, Nucleus, Mitochondrion, Lysosome, Cell membrane
Concentration	1mg ml
Formulation	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage	Shipped at 4°C. Store at -20°C for one year. Avoid repeated freeze/thaw cycles.

Application Details

Flow-Cyt=1:50-200B IF=1:50-200

Background

Serine threonine protein kinase which is a central regulator of cellular metabolism, growth and survival in response to hormones, growth factors, nutrients, energy and stress signals. MTOR directly or indirectly regulates the phosphorylation of at least 800 proteins. Functions as part of 2 structurally and functionally distinct signaling complexes mTORC1 and mTORC2 (mTOR complex 1 and 2). Activated mTORC1 up-regulates protein synthesis by phosphorylating key regulators of mRNA translation and ribosome synthesis. This includes phosphorylation of EIF4EBP1 and release of its inhibition toward the elongation initiation factor 4E (eIF4E). Moreover, phosphorylates and activates RPS6KB1 and RPS6KB2 that promote protein synthesis by modulating the activity of their downstream targets including ribosomal protein S6, eukaryotic translation initiation factor EIF4B, and the inhibitor of translation initiation PDCD4. Stimulates the pyrimidine biosynthesis pathway, both by acute regulation through RPS6KB1-mediated phosphorylation of the biosynthetic enzyme CAD, and delayed regulation, through transcriptional enhancement of the pentose phosphate pathway which produces 5-phosphoribosyl-1-pyrophosphate (PRPP), an allosteric activator of CAD at a later step in synthesis, this function is dependent on the mTORC1 complex. Regulates ribosome synthesis by activating RNA polymerase III-dependent transcription through phosphorylation and inhibition of MAF1 an RNA polymerase III-repressor. In parallel to protein synthesis, also regulates lipid synthesis through SREBF1 SREBP1 and LPIN1. To

maintain energy homeostasis mTORC1 may also regulate mitochondrial biogenesis through regulation of PPARGC1A. mTORC1 also negatively regulates autophagy through phosphorylation of ULK1. Under nutrient sufficiency, phosphorylates ULK1 at 'Ser-758', disrupting the interaction with AMPK and preventing activation of ULK1. Also prevents autophagy through phosphorylation of the autophagy inhibitor DAP.

Note: This product is for in vitro research use only