

## mTOR (Phospho-Ser2481) Conjugated Antibody

Catalog No: #C12030



Package Size: #C12030-AF350 100ul #C12030-AF405 100ul #C12030-AF488 100ul  
 #C12030-AF555 100ul #C12030-AF594 100ul #C12030-AF647 100ul  
 #C12030-AF680 100ul #C12030-AF750 100ul #C12030-Biotin 100ul

Orders: [order@signalwayantibody.com](mailto:order@signalwayantibody.com)  
 Support: [tech@signalwayantibody.com](mailto:tech@signalwayantibody.com)

## Description

Product Name	mTOR (Phospho-Ser2481) Conjugated Antibody
Host Species	Rabbit
Clonality	Polyclonal
Species Reactivity	Hu Ms Rt
Specificity	The antibody detects endogenous level of mTOR only when phosphorylated at Serine 2481.
Immunogen Description	Peptide sequence around phosphorylation site of Serine 2481 (I-H-S(p)-F-I) derived from Human mTOR.
Conjugates	Biotin AF350 AF405 AF488 AF555 AF594 AF647 AF680 AF750
Other Names	FRAP;FRAP1;FRAP2;RAFT1;RAPT1
Accession No.	Swiss-Prot#:P42345NCBI Gene ID:2475NCBI mRNA#:NM_004958.3NCBI Protein#:NP_004949.1?
Uniprot	P42345
GeneID	2475;
Excitation Emission	AF350: 346nm/442nm AF405: 401nm/421nm AF488: 493nm/519nm AF555: 555nm/565nm AF594: 591nm/614nm AF647: 651nm/667nm AF680: 679nm/702nm AF750: 749nm/775nm
Calculated MW	288
Formulation	0.01M Sodium Phosphate, 0.25M NaCl, pH 7.6, 5mg/ml Bovine Serum Albumin, 0.02% Sodium Azide
Storage	Store at 4°C in dark for 6 months

## Application Details

## Suggested Dilution:

AF350 conjugated: most applications: 1: 50 - 1: 250  
 AF405 conjugated: most applications: 1: 50 - 1: 250  
 AF488 conjugated: most applications: 1: 50 - 1: 250  
 AF555 conjugated: most applications: 1: 50 - 1: 250  
 AF594 conjugated: most applications: 1: 50 - 1: 250  
 AF647 conjugated: most applications: 1: 50 - 1: 250  
 AF680 conjugated: most applications: 1: 50 - 1: 250  
 AF750 conjugated: most applications: 1: 50 - 1: 250

## Product Description

Antibodies were produced by immunizing rabbits with synthetic phosphopeptide and KLH conjugates. Antibodies were purified by affinity-chromatography using epitope-specific phosphopeptide. Non-phospho specific antibodies were removed by chromatography using non-phosphopeptide.

## 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. 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. Regulates ribosome synthesis by activating RNA polymerase III-dependent transcription through phosphorylation and inhibition of MAF1 a 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. mTORC1 exerts a feedback control on upstream growth factor signaling that includes phosphorylation and activation of GRB10 a INSR-dependent signaling suppressor. Among other potential targets mTORC1 may phosphorylate CLIP1 and regulate microtubules. As part of the mTORC2 complex MTOR may regulate other cellular processes including survival and organization of the cytoskeleton. Plays a critical role in the phosphorylation at 'Ser-473' of AKT1, a pro-survival effector of phosphoinositide 3-kinase, facilitating its activation by PDK1. mTORC2 may regulate the actin cytoskeleton, through phosphorylation of PRKCA, PXN and activation of the Rho-type guanine nucleotide exchange factors RHOA and RAC1A or RAC1B. mTORC2 also regulates the phosphorylation of SGK1 at 'Ser-422'.

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Note: This product is for in vitro research use only