

Datasheet for ABIN6989468
anti-MTOR antibody



[Go to Product page](#)

Overview

Quantity:	100 µL
Target:	MTOR (mTOR)
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Monoclonal
Conjugate:	This MTOR antibody is un-conjugated
Application:	Western Blotting (WB)

Product Details

Immunogen:	Recombinant human mTOR
Clone:	3A10
Isotype:	IgG
Cross-Reactivity:	Human, Mouse, Rat
Purification:	Purified by Protein A.

Target Details

Target:	MTOR (mTOR)
Alternative Name:	mTOR (mTOR Products)
Background:	Synonyms: FKBP12, dJ576K7.1 (FK506 binding protein 12 rapamycin associated protein 1), FK506 binding protein 12 rapamycin associated protein 1, FK506 binding protein 12 rapamycin

associated protein 2, FK506 binding protein 12 rapamycin complex associated protein 1, FK506 binding protein12-rapamycin associated protein 1, FK506 binding protein12-rapamycin associated protein 2, FK506-binding protein 12-rapamycin complex-associated protein 1, FKBP rapamycin associated protein, FKBP12 rapamycin complex associated protein, FKBP12-rapamycin complex-associated protein, FLJ44809, FRAP, FRAP1, FRAP2, Mammalian target of rapamycin, Mechanistic target of rapamycin, mTOR, MTOR_HUMAN, OTTHUMP00000001983, RAFT1, Rapamycin and FKBP12 target 1, Rapamycin associated protein FRAP2, Rapamycin target protein 1, Rapamycin target protein, RAPT1, Serine/threonine-protein kinase mTOR.

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'.

Gene ID:	2475
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Target Details

UniProt:	P42345
Pathways:	PI3K-Akt Signaling , RTK Signaling , AMPK Signaling , Interferon-gamma Pathway , Fc-epsilon Receptor Signaling Pathway , EGFR Signaling Pathway , Neurotrophin Signaling Pathway , Regulation of Actin Filament Polymerization , Regulation of Muscle Cell Differentiation , Regulation of Cell Size , Skeletal Muscle Fiber Development , Regulation of Carbohydrate Metabolic Process , Autophagy , CXCR4-mediated Signaling Events , BCR Signaling , Warburg Effect

Application Details

Application Notes:	WB 1:300-5000
Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	1 µg/µL
Buffer:	Aqueous buffered solution containing 1xTBS (pH 7.4), 1 % BSA, 40 %Glycerol and 0.05 % Sodium Azide.
Preservative:	ProClin
Precaution of Use:	This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE, which should be handled by trained staff only.
Storage:	-20 °C
Storage Comment:	Store at -20°C for 12 months.
Expiry Date:	12 months