

Datasheet for ABIN7169076
anti-MTOR antibody (AA 1223-1290)



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2 Images

Overview

Quantity:	100 µg
Target:	MTOR (mTOR)
Binding Specificity:	AA 1223-1290
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This MTOR antibody is un-conjugated
Application:	Immunohistochemistry (IHC), ELISA, Immunofluorescence (IF)

Product Details

Immunogen:	Recombinant Human Serine/threonine-protein kinase mTOR protein (1223-1290AA)
Isotype:	IgG
Cross-Reactivity:	Human
Purification:	>95%, Protein G purified

Target Details

Target:	MTOR (mTOR)
Alternative Name:	MTOR (mTOR Products)
Background:	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. 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'. Regulates osteoclastogenesis by adjusting the expression of CEBPB isoforms (By similarity).

Aliases: dJ576K7.1 (FK506 binding protein 12 rapamycin associated protein 1) antibody, FK506 binding protein 12 rapamycin associated protein 1 antibody, FK506 binding protein 12 rapamycin associated protein 2 antibody, FK506 binding protein 12 rapamycin complex associated protein 1 antibody, FK506-binding protein 12-rapamycin complex-associated protein 1 antibody, FKBP rapamycin associated protein antibody, FKBP12 rapamycin complex

Target Details

associated protein antibody, FKBP12-rapamycin complex-associated protein 1 antibody, FKBP12-rapamycin complex-associated protein antibody, FLJ44809 antibody, FRAP antibody, FRAP1 antibody, FRAP2 antibody, Mammalian target of rapamycin antibody, Mechanistic target of rapamycin antibody, mTOR antibody, MTOR_HUMAN antibody, OTTHUMP00000001983 antibody, RAFT1 antibody, Rapamycin and FKBP12 target 1 antibody, Rapamycin associated protein FRAP2 antibody, Rapamycin target protein 1 antibody, Rapamycin target protein antibody, RAPT1 antibody, Serine/threonine-protein kinase mTOR antibody

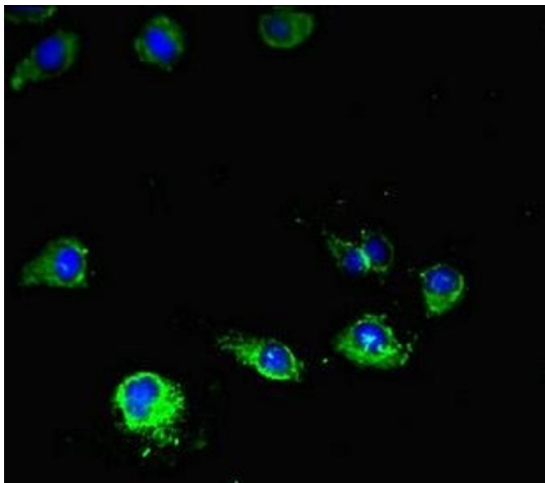
UniProt:	P42345
Pathways:	PI3K-Akt Signaling , RTK Signaling , AMPK Signaling , Interferon-gamma Pathway , Fc-epsilon Receptor Signaling Pathway , EGFR Signaling Pathway , Neurotrophin Signaling Pathway , Regulation of Actin Filament Polymerization , Regulation of Muscle Cell Differentiation , Regulation 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:	Recommended dilution: IHC:1:20-1:200, IF:1:50-1:200,
Restrictions:	For Research Use only

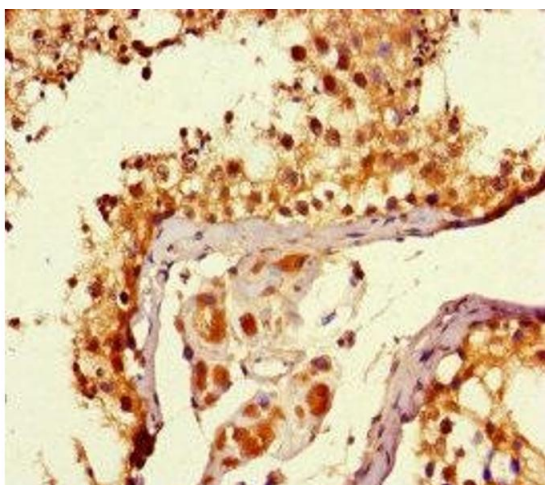
Handling

Format:	Liquid
Buffer:	Preservative: 0.03 % Proclin 300 Constituents: 50 % Glycerol, 0.01M PBS, PH 7.4
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,-80 °C
Storage Comment:	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.



Immunofluorescence

Image 1. Immunofluorescent analysis of HeLa cells using ABIN7169076 at dilution of 1:100 and Alexa Fluor 488-conjugated AffiniPure Goat Anti-Rabbit IgG(H+L)



Immunohistochemistry

Image 2. Immunohistochemistry of paraffin-embedded human testis tissue using ABIN7169076 at dilution of 1:100