Product Datasheet

mTOR Antibody

Catalog No: #21214

Package Size: #21214-1 50ul #21214-2 100ul

Orders: order@signalwayantibody.com
Support: tech@signalwayantibody.com

Description

Product Name	mTOR Antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	Antibodies were produced by immunizing rabbits with synthetic peptide and KLH conjugates. Antibodies were purified by affinity-chromatography using epitope-specific peptide.
Applications	WB IHC IF
Species Reactivity	Human;Mouse;Rat
Specificity	The antibody detects endogenous level of total mTOR protein.
Immunogen Type	Peptide-KLH
Immunogen Description	Peptide sequence around aa. 2446~2450 (T-D-S-Y-S) derived from Human mTOR.
Conjugates	Unconjugated
Target Name	mTOR
Other Names	FRAP; FRAP1; FRAP2; RAFT1;
Accession No.	Swiss-Prot: P42345NCBI Protein: NP_004949.1
Concentration	1.0mg/ml
Formulation	Supplied at 1.0mg/mL in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Storage	Store at -20°C for long term preservation (recommended). Store at 4°C for short term use.

Application Details

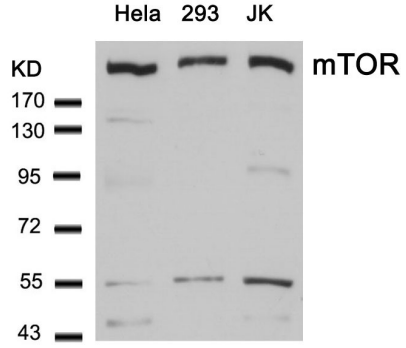
Predicted MW: 289kd

Western blotting: 1:500~1:1000

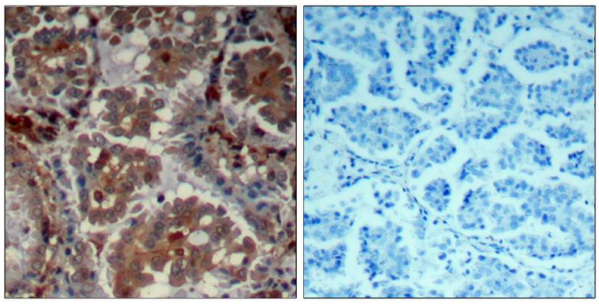
Immunohistochemistry: 1:50~1:100

Immunofluorescence: 1:100~1:200

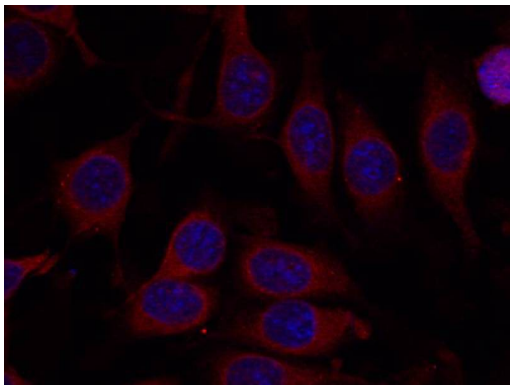
Images



Western blot analysis of extracts from Hela, 293 and JK cells using mTOR(Ab-2448) Antibody #21214.



Immunohistochemical analysis of paraffin-embedded human Lung carcinoma tissue using mTOR(Ab-2448) Antibody #21214(left) or the same antibody preincubated with blocking peptide(right).



Immunofluorescence staining of methanol-fixed MCF7 cells using mTOR(Ab-2448) Antibody #21214.

Background

Kinase subunit of both mTORC1 and mTORC2, which regulate cell growth and survival in response to nutrient and hormonal signals. mTORC1 is activated in response to growth factors or amino-acids. Amino-acid-signaling to mTORC1 is mediated by Rag GTPases, which cause amino-acid-induced relocalization of mTOR within the endomembrane system. Growth factor-stimulated mTORC1 activation involves AKT1-mediated phosphorylation of TSC1-TSC2, which leads to the activation of the RHEB GTPase that potently activates the protein kinase activity of mTORC1. 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-421', which then promotes protein synthesis by phosphorylating PDCD4 and targeting it for degradation. mTORC2 is also activated by growth factors, but seems to be nutrient-insensitive. mTORC2 seems to function upstream of Rho GTPases to regulate the actin cytoskeleton, probably by activating one or more Rho-type guanine nucleotide exchange factors. mTORC2 promotes the serum-induced formation of stress-fibers or F-actin. mTORC2 plays a critical role in AKT1 'Ser-473' phosphorylation, which may facilitate the phosphorylation of the activation loop of AKT1 on 'Thr-308' by PDK1 which is a prerequisite for full activation. mTORC2 regulates the phosphorylation of SGK1 at 'Ser-422'. mTORC2 also modulates the phosphorylation of PRKCA on 'Ser-657'.

Albanell J,et al.(2007)Clin Transl Oncol.9(8):484-93.
Huang JJ,et al.

Published Papers

el at., 5-HT 2 receptor mediates high-fat diet-induced hepatic steatosis and very low density lipoprotein overproduction in rats.In Obes Res Clin Pract. On 2018 Jan - Feb by Li X, Guo K et al..PMID: 27133527, , (2018)

PMID:27133527

el at., IvabradIne improved left ventricular function and pressure overload-induced cardiomyocyte apoptosis in a transverse aortic constriction mouse model. In Mol Cell Biochem on 2019 Jan by Yu Y, Hu Z, et al..PMID:29790114, , (2019)

PMID:29790114

el at., Inhibition of excessive autophagy and mitophagy mediates neuroprotective effects of URB597 against chronic cerebral hypoperfusion.In Cell Death Dis. On 2018 Jun 28 by Su SH, Wu YF et al..PMID:29955058, , (2018)

PMID:29955058

el at., Effect of electrical stimulation combIned with diet therapy on InsulIn resistance via mTOR signalIng. In Mol Med Rep on 2019 Dec by Huang S, Tang N, et al..PMID:31702811, , (2019)

PMID:31702811

el at., Mechanistic Target of Rapamycin Small Interfering RNA and Rapamycin Synergistically Inhibit Tumour Growth in a Mouse Xenograft Model of Human Oesophageal Carcinoma. In J Int Med Res on 2012 by M M Sun, M Z Zhang, et al..PMID: 23206445, , (2012)

PMID:23206445

el at., Tunneling Nanotubes Promote Intercellular Mitochondria Transfer Followed by Increased Invasiveness in Bladder Cancer Cells.In Oncotarget on 2017 Feb 28 by Jinjin Lu, Xiufen Zheng,et al..PMID: 28107184, , (2017)

PMID:28107184

el at., Propranolol Sensitizes Thyroid Cancer Cells to Cytotoxic Effect of Vemurafenib.In Oncol Rep on 2016 Sep by Wei-Jun Wei , Chen-Tian Shen et al..PMID:27432558, , (2016)

PMID:27432558

el at., Long-term Stress with Hyperglucocorticoidemia-induced Hepatic Steatosis with VLDL Overproduction Is Dependent on both 5-HT2 Receptor and 5-HT Synthesis in Liver.In Int J Biol Sci on 2016 Jan 1 by Jihua Fu , Shaoxin Ma et al..PMID: 26884719, , (2016)

PMID:26884719

el at., Effective treatment with combination of peripheral 5ı ζ• • ydroxytryptamine synthetic inhibitor and 5ı ζ• • ydroxytryptamine 2 receptor antagonist on glucocorticoidı ζ• nduced wholeı ζ• ody insulin resistance with hyperglycemia.In J Diabetes Investig on 2016 Nov by Shaoxin Ma , Tao Li et al..PMID:27177506, , (2016)

PMID:27177506

Note: This product is for in vitro research use only and is not intended for use in humans or animals.