Product Datasheet

mTOR(Phospho-Ser2448) Antibody

Catalog No: #11221

Package Size: #11221-1 50ul #11221-2 100ul

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

Description

Product Name	mTOR(Phospho-Ser2448) Antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	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 chromatogramphy using non-phosphopeptide.
Applications	WB IHC IF
Species Reactivity	Human;Mouse;Rat
Specificity	The antibody detects endogenous level of mTOR only when phosphorylated at serine 2448.
Immunogen Type	Peptide-KLH
Immunogen Description	Peptide sequence around phosphorylation site of serine 2448 (T-D-S(p)-Y-S) derived from Human mTOR.
Conjugates	Unconjugated
Target Name	mTOR
Modification	Phospho
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

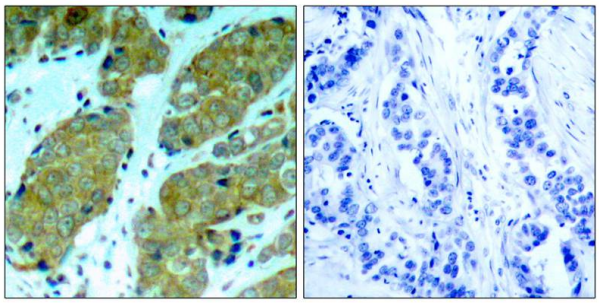
Predicted MW: 289kd

Western blotting: 1:500~1:1000

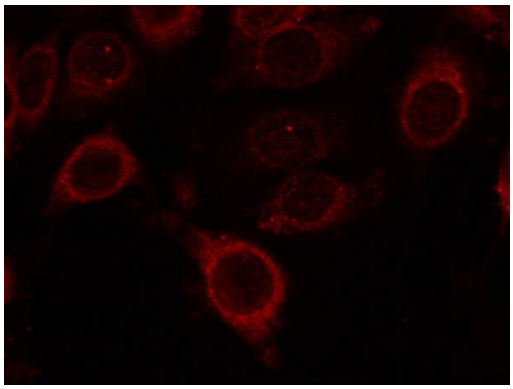
Immunohistochemistry: 1:50~1:100

Immunofluorescence: 1:100~1:200

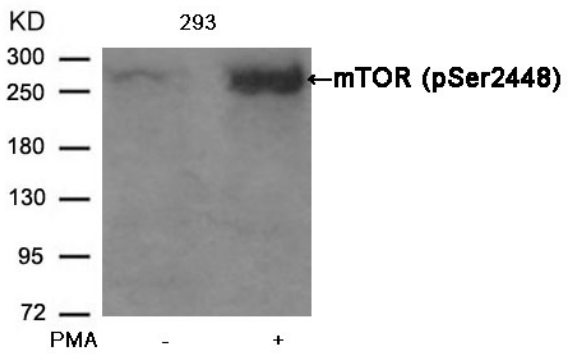
Images



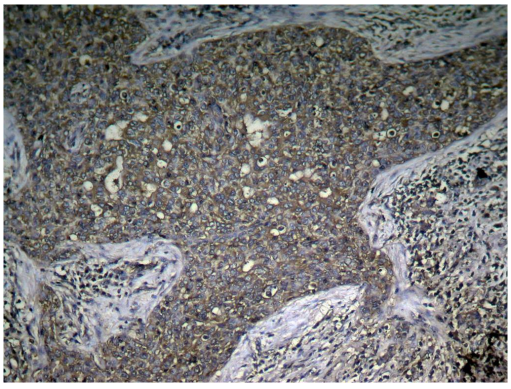
Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue using mTOR(Phospho-Ser2448) Antibody #11221(left) or the same antibody preincubated with blocking peptide(right).



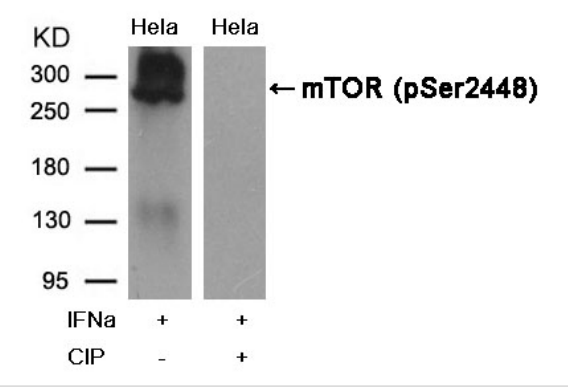
Immunofluorescence staining of methanol-fixed MCF cells using mTOR(Phospho-Ser2448) Antibody #11221.



Western blot analysis of extracts from 293 cells untreatedor treated with PMA using mTOR(Phospho-Ser2448) Antibody #11221.



Immunohistochemical analysis ofparaffin-embedded human breast carcinomatissue using mTOR (Phospho-Ser2448) Antibody #11221



Western blot analysis of extracts from Hela cells, treatedwith IFNa or calf intestinal phosphatase (CIP), using mTOR(Phospho-Ser2448) Antibody #11221.

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

Macias M, Blazejczyk M, Kazmierska P el at., Spatiotemporal Characterization of mTOR Kinase Activity Following Kainic Acid Induced Status Epilepticus and Analysis of Rat Brain Response to Chronic Rapamycin Treatment. , PLoS ONE, 8(5): e64455. doi:10.1371/journal.pone.0064455(2013)

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el at., Epithelial Cells Attenuate Toll-Like Receptor-Mediated Inflammatory Responses in Monocyte-Derived Macrophage-Like Cells to Mycobacterium tuberculosis by Modulating the PI3K/Akt/mTOR Signaling Pathway.In Mediators Inflamm.On 2018 Sep by Yang Y, Sun Y et al..PMID:30356420, , (2018)

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el at., The AMPK-dependent inhibition of autophagy plays a crucial role in protecting photoreceptor from photooxidative injury In J Photochem Photobiol B On2023 AugbyYu-Lin Li , Tian-Zi Zhang et al..PMID:37302163, , (2023)

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