mTOR(Ab-2481) Antibody

Catalog No: #21515

Package Size: #21515-1 50ul #21515-2 100ul

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

Description

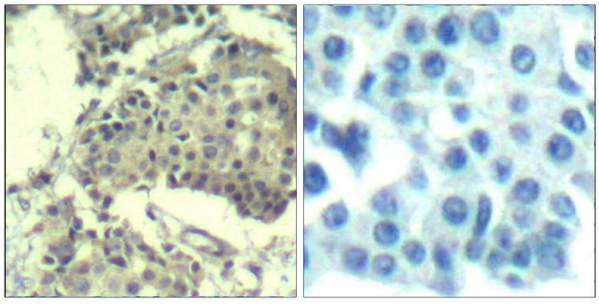
Product Name	mTOR(Ab-2481) Antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	Antibodies were produced by immunizing rabbits with synthetic peptide and KLH conjugates. Antibodies were purified by affinity-chromatography using epitope-specific peptide.
Applications	IHC
Species Reactivity	Hu Ms Rt
Specificity	The antibody detects endogenous level of total mTOR protein.
Immunogen Type	Peptide-KLH
Immunogen Description	Peptide sequence around aa.2479~2483 (I-H-S-F-I) derived from Human mTOR.
Target Name	mTOR
Other Names	FRAP; FRAP1; FRAP2; RAFT1; Rapamycin target protein
Accession No.	Swiss-Prot: P42345NCBI Protein: NP_004949.1
Uniprot	P42345
GeneID	2475;
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

Immunohistochemistry: 1:50~1:100

Images



Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue using mTOR(Ab-2481) Antibody #21515(left) or the same antibody preincubated with blocking peptide(right).

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'.

Sabers, C.J. et al. (1995) J. Biol. Chem. 270, 815-822.
Brown, E.J. et al. (1994) Nature 369, 756-758.
Dennis, P.B. et al. (2001) Science 294, 1102-1105.
Sabatini, D.M. et al. (1994) Cell 78, 35-43.

Note: This product is for in vitro research use only