Revision 7

Store at -20C

#2976

Phospho-mTOR (Ser2448) (49F9) Rabbit mAb

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
IHC-P	H	Endogenous	289	Rabbit IgG	#P42345	2475

Product Usage Information

Application	Dilution
Immunohistochemistry (Paraffin)	1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #54932.

Specificity/Sensitivity

Phospho-mTOR (Ser2448) (49F9) Rabbit mAb detects endogenous levels of mTOR protein only when phosphorylated at Ser2448.

Species predicted to react based on 100% sequence homology

Mouse, Rat

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser2448 of human mTOR.

Background

The mammalian target of rapamycin (mTOR, FRAP, RAFT) is a Ser/Thr protein kinase (1-3) that functions as an ATP and amino acid sensor to balance nutrient availability and cell growth (4,5). When sufficient nutrients are available, mTOR responds to a phosphatidic acid-mediated signal to transmit a positive signal to p70 S6 kinase and participate in the inactivation of the eIF4E inhibitor, 4E-BP1 (6). These events result in the translation of specific mRNA subpopulations. mTOR is phosphorylated at Ser2448 via the PI3 kinase/Akt signaling pathway and autophosphorylated at Ser2481 (7,8). mTOR plays a key role in cell growth and homeostasis and may be abnormally regulated in tumors. For these reasons, mTOR is currently under investigation as a potential target for anti-cancer therapy (9).

Background References

1. Sabers, C.J. et al. (1995) *J Biol Chem* 270, 815-22.
2. Brown, E.J. et al. (1994) *Nature* 369, 756-8.
3. Sabatini, D.M. et al. (1994) *Cell* 78, 35-43.
4. Gingras, A.C. et al. (2001) *Genes Dev* 15, 807-26.
5. Dennis, P.B. et al. (2001) *Science* 294, 1102-5.
6. Fang, Y. et al. (2001) *Science* 294, 1942-5.
7. Navé, B.T. et al. (1999) *Biochem J* 344 Pt 2, 427-31.
8. Peterson, R.T. et al. (2000) *J Biol Chem* 275, 7416-23.
9. Huang, S. and Houghton, P.J. (2003) *Curr Opin Pharmacol* 3, 371-7.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Applications Key

IHC-P: Immunohistochemistry (Paraffin)

Cross-Reactivity Key

H: Human

Trademarks and Patents

Limited Uses

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