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Store at -20C
#4517

mTOR (L27D4) Mouse mAb

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

Applications: W, W-S	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 289	Source/Isotype: Mouse IgG1	UniProt ID: #P42345	Entrez-Gene Id: 2475
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Product Usage Information

Application

Western Blotting
Simple Western™

Dilution

1:1000
1:50 - 1:250

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.

Specificity/Sensitivity

mTOR (L27D4) Mouse mAb detects endogenous levels of total mTOR protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to the sequence of human mTOR protein.

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).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **W-S:** Simple Western™

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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