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mTOR (7C10) Rabbit mAb (PE Conjugate)

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

Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP	H M R Mk	Endogenous	Rabbit IgG	#P42345	2475
Product Usage Information	Application Flow Cytometry (Fixed/Permeabilized)			Dilution 1:50	
Storage	Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibodies. Protect from light. Do not freeze.				
Specificity/Sensitivity	mTOR (7C10) Rabbit mAb (PE Conjugate) recognizes endogenous levels of total mTOR protein.				
Species predicted to react based on 100% sequence homology	Horse				
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser2481 of human mTOR.				
Description	This Cell Signaling Technology antibody is conjugated to phycoerythrin (PE) and tested in-house for direct flow cytometry analysis in human cells. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated mTOR (7C10) Rabbit mAb #2983.				
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	<ol style="list-style-type: none"> Sabers, C.J. et al. (1995) <i>J Biol Chem</i> 270, 815-22. Brown, E.J. et al. (1994) <i>Nature</i> 369, 756-8. Sabatini, D.M. et al. (1994) <i>Cell</i> 78, 35-43. Gingras, A.C. et al. (2001) <i>Genes Dev</i> 15, 807-26. Dennis, P.B. et al. (2001) <i>Science</i> 294, 1102-5. Fang, Y. et al. (2001) <i>Science</i> 294, 1942-5. Navé, B.T. et al. (1999) <i>Biochem J</i> 344 Pt 2, 427-31. Peterson, R.T. et al. (2000) <i>J Biol Chem</i> 275, 7416-23. Huang, S. and Houghton, P.J. (2003) <i>Curr Opin Pharmacol</i> 3, 371-7. 				

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

Applications Key **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key **H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey

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