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mTOR (7C10) Rabbit mAb (Alexa Fluor® 647 Conjugate)

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

Applications: FC-FP	Reactivity: H M R Mk	Sensitivity: Endogenous	Source/Isotype: Rabbit IgG	UniProt ID: #P42345	Entrez-Gene Id: 2475
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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 antibody. Protect from light. Do not freeze.	
Specificity/Sensitivity	mTOR (7C10) Rabbit mAb (Alexa Fluor® 647 Conjugate) detects 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 protein. This antibody was conjugated to Alexa Fluor® 647 under optimal conditions with an F/P of 2-6.	
Description	This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 647 fluorescent dye and tested in-house for direct flow cytometry in human cells. The 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"> 1. Sabers, C.J. et al. (1995) <i>J Biol Chem</i> 270, 815-22. 2. Brown, E.J. et al. (1994) <i>Nature</i> 369, 756-8. 3. Sabatini, D.M. et al. (1994) <i>Cell</i> 78, 35-43. 4. Gingras, A.C. et al. (2001) <i>Genes Dev</i> 15, 807-26. 5. Dennis, P.B. et al. (2001) <i>Science</i> 294, 1102-5. 6. Fang, Y. et al. (2001) <i>Science</i> 294, 1942-5. 7. Navé, B.T. et al. (1999) <i>Biochem J</i> 344 Pt 2, 427-31. 8. Peterson, R.T. et al. (2000) <i>J Biol Chem</i> 275, 7416-23. 9. 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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