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#5048

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



**Cell Signaling**  
TECHNOLOGY®

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

<b>Applications:</b> FC-FP	<b>Reactivity:</b> H M R Mk	<b>Sensitivity:</b> Endogenous	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #P42345	<b>Entrez-Gene Id:</b> 2475
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<b>Product Usage Information</b>	<b>Application</b> Flow Cytometry (Fixed/Permeabilized)	<b>Dilution</b> 1:50
<b>Storage</b>	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.	
<b>Specificity / Sensitivity</b>	mTOR (7C10) Rabbit mAb (Alexa Fluor® 647 Conjugate) detects endogenous levels of total mTOR protein.	
<b>Species predicted to react based on 100% sequence homology:</b>	Horse	
<b>Source / Purification</b>	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.	
<b>Product Description</b>	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.	
<b>Background</b>	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).	
<b>Background References</b>	<ol style="list-style-type: none"> <li>1. Sabers, C.J. et al. (1995) <i>J Biol Chem</i> 270, 815-22.</li> <li>2. Brown, E.J. et al. (1994) <i>Nature</i> 369, 756-8.</li> <li>3. Sabatini, D.M. et al. (1994) <i>Cell</i> 78, 35-43.</li> <li>4. Gingras, A.C. et al. (2001) <i>Genes Dev</i> 15, 807-26.</li> <li>5. Dennis, P.B. et al. (2001) <i>Science</i> 294, 1102-5.</li> <li>6. Fang, Y. et al. (2001) <i>Science</i> 294, 1942-5.</li> <li>7. Navé, B.T. et al. (1999) <i>Biochem J</i> 344 Pt 2, 427-31.</li> <li>8. Peterson, R.T. et al. (2000) <i>J Biol Chem</i> 275, 7416-23.</li> <li>9. Huang, S. and Houghton, P.J. (2003) <i>Curr Opin Pharmacol</i> 3, 371-7.</li> </ol>	

<b>Species Reactivity</b>	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
<b>Applications Key</b>	<b>FC-FP:</b> Flow Cytometry (Fixed/Permeabilized)
<b>Cross-Reactivity Key</b>	<b>H:</b> human <b>M:</b> mouse <b>R:</b> rat <b>Hm:</b> hamster <b>Mk:</b> monkey <b>Vir:</b> virus <b>Mi:</b> mink <b>C:</b> chicken <b>Dm:</b> D. melanogaster <b>X:</b> Xenopus <b>Z:</b> zebrafish <b>B:</b> bovine <b>Dg:</b> dog <b>Pg:</b> pig <b>Sc:</b> S. cerevisiae <b>Ce:</b> C. elegans <b>Hr:</b> horse <b>GP:</b> Guinea Pig <b>Rab:</b> rabbit <b>All:</b> all species expected

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