

#2974 Store at -20°C

## Phospho-mTOR (Ser2481) Antibody



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TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H M R Mk	Endogenous	289	Rabbit	#P42345	2475

<b>Product Usage Information</b>	<b>Application</b> Western Blotting	<b>Dilution</b> 1:1000
<b>Storage</b>	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
<b>Specificity / Sensitivity</b>	Phospho-mTOR (Ser2481) Antibody detects endogenous levels of mTOR only when phosphorylated at serine 2481.	
<b>Source / Purification</b>	Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser2481 of human mTOR. Antibodies are purified by protein A and peptide affinity chromatography.	
<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>Western Blot Buffer</b>	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
<b>Applications Key</b>	<b>WB:</b> Western Blotting
<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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