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# PIK3R4 Antibody


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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H M R	Endogenous	153	Rabbit	#Q99570	30849

Product Usage Information	Application	Dilution
	Western Blotting	1:1000
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. <i>Do not aliquot the antibody.</i>	
Specificity / Sensitivity	PIK3R4 Antibody recognizes endogenous levels of total PIK3R4 protein.	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly825 of human PIK3R4 protein. Antibodies are purified by protein A and peptide affinity chromatography.	
Background	<p>The serine/threonine PI3 kinase regulatory subunit 4 (PIK3R4, Vps15) is the mammalian homologue of the yeast vacuolar protein sorting 15 (1). PIK3R4 regulates the kinase activity of PI3K class III and anchors the kinase to cellular membranes through myristoylation (2,3). Recruitment of PI3K class III to the site of early endosome fusion and docking is directly mediated by PIK3R4 binding to the small GTPase Rab5 through its HEAT and WD-40 domains (4,5). The PIK3R4/PI3K class III plays a role in late endosome function through PIK3R4 binding to the Rab7 GTPase (6). In addition to its role in trafficking, the PIK3R4/PI3K class III complex interacts with beclin-1 to play a role during several stages of autophagy. Autophagosome formation is stimulated when Atg14 complexes with PIK3R4, PI3K class III, and beclin-1. The UVRAG protein competes with Atg14 for beclin-1 binding, forming a mutually exclusive complex with PIK3R4, PI3K class III, and beclin-1 that regulates autophagosome maturation. Autophagosome maturation is impaired in the presence of the beclin-1-binding protein Rubicon (7,8). Co-expression of PIK3R4 is required for PI3K class III activation and regulation by both beclin-1/UVRAG and by nutrients (9). Overexpression of PIK3R4 protein has been associated with decreased survival in patients with ovarian tumors, while mutations of the corresponding <i>PIK3R4</i> gene are associated with metastatic melanoma, suggesting that PIK3R4 functions in cancer (10,11).</p>	
Background References	<ol style="list-style-type: none"> <li>Herman, P.K. et al. (1991) <i>Cell</i> 64, 425-37.</li> <li>Stack, J.H. et al. (1993) <i>EMBO J</i> 12, 2195-204.</li> <li>Panaretou, C. et al. (1997) <i>J Biol Chem</i> 272, 2477-85.</li> <li>Christoforidis, S. et al. (1999) <i>Nat Cell Biol</i> 1, 249-52.</li> <li>Murray, J.T. et al. (2002) <i>Traffic</i> 3, 416-27.</li> <li>Stein, M.P. et al. (2003) <i>Traffic</i> 4, 754-71.</li> <li>Zhong, Y. et al. (2009) <i>Nat Cell Biol</i> 11, 468-76.</li> <li>Sun, Q. et al. (2008) <i>Proc Natl Acad Sci U S A</i> 105, 19211-6.</li> <li>Yan, Y. et al. (2009) <i>Biochem J</i> 417, 747-55.</li> <li>Shull, A.Y. et al. (2012) <i>PLoS One</i> 7, e43369.</li> <li>Huang, J. et al. (2011) <i>Genes Chromosomes Cancer</i> 50, 606-18.</li> </ol>	

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	<b>WB:</b> Western Blotting

**Cross-Reactivity Key**

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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