

#7151 Store at -20C

Rubicon (D8B2) Rabbit mAb



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB	H	Endogenous	130	Rabbit	#Q92622	9711

Product Usage Information	Application Western Blotting	Dilution 1:1000
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	Rubicon (D8B2) Rabbit mAb recognizes endogenous levels of total Rubicon protein. Background bands of unknown origin are detected between 60 and 65 kDa.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human Rubicon protein.	
Background	Autophagy is a catabolic process for the autophagosomic-lysosomal degradation of bulk cytoplasmic contents (1,2). Autophagy is generally activated by conditions of nutrient deprivation but is also associated with a number of physiological processes, including development, differentiation, neurodegeneration, infection, and cancer (3). The molecular machinery of autophagy was largely discovered in yeast and is directed by a number of autophagy-related (Atg) genes. These proteins are involved in the formation of autophagosomes, which are cytoplasmic vacuoles that are delivered to lysosomes for degradation. The class III type phosphoinositide 3-kinase (PI3K) Vps34 regulates vacuolar trafficking and autophagy (4,5). Multiple proteins associate with Vps34, including p105/Vps15, Beclin-1, UVRAG, Atg14, and Rubicon (6-12). Atg14 and Rubicon were identified based on their ability to bind to Beclin-1 and participate in unique complexes with opposing functions (9-12). Rubicon, which localizes to the endosome and lysosome, inhibits Vps34 lipid kinase activity; knockdown of Rubicon enhances autophagy and endocytic trafficking (11,12). In contrast, Atg14 localizes to autophagosomes, isolation membranes, and ER and can enhance Vps34 activity. Knockdown of Atg14 inhibits starvation-induced autophagy (11,12).	
Background References	<ol style="list-style-type: none"> Reggiori, F. and Klionsky, D.J. (2002) <i>Eukaryot Cell</i> 1, 11-21. Codogno, P. and Meijer, A.J. (2005) <i>Cell Death Differ</i> 12 Suppl 2, 1509-18. Levine, B. and Yuan, J. (2005) <i>J Clin Invest</i> 115, 2679-88. Corvera, S. (2001) <i>Traffic</i> 2, 859-66. Yan, Y. and Backer, J.M. (2007) <i>Biochem Soc Trans</i> 35, 239-41. Stack, J.H. et al. (1995) <i>J Cell Biol</i> 129, 321-34. Zeng, X. et al. (2006) <i>J Cell Sci</i> 119, 259-70. Liang, C. et al. (2006) <i>Nat Cell Biol</i> 8, 688-99. Itakura, E. et al. (2008) <i>Mol Biol Cell</i> 19, 5360-72. Sun, Q. et al. (2008) <i>Proc Natl Acad Sci USA</i> 105, 19211-6. Zhong, Y. et al. (2009) <i>Nat Cell Biol</i> 11, 468-76. Matsunaga, K. et al. (2009) <i>Nat Cell Biol</i> 11, 385-96. 	

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 BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: 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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