

#13879 Store at -20C

Rheb (E1G1R) Rabbit mAb



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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M R Mk	Endogenous	16	Rabbit IgG	#Q15382	6009

Product Usage Information	Application Western Blotting Immunoprecipitation	Dilution 1:1000 1:50
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	Rheb (E1G1R) Rabbit mAb recognizes endogenous levels of total Rheb protein. This antibody does not cross-react with RhebL1 protein. Bands of unknown origin may be detected at 30 kDa and 50 kDa in some cell lines.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu165 of human Rheb protein.	
Background	Ras Homolog Enriched in Brain (Rheb) is an evolutionarily conserved member of the Ras family of small GTP-binding proteins originally found to be rapidly induced by synaptic activity in the hippocampus following seizure (1). While it is expressed at relatively high levels in the brain, Rheb is widely expressed in other tissues and may be induced by growth factor stimulation. Like other Ras family members, Rheb triggers activation of the Raf-MEK-MAPK pathway (2). Biochemical and genetic studies demonstrate that Rheb has an important role in regulating the insulin/TOR signaling pathway (3-6). The mammalian target of rapamycin (mTOR) is a serine/threonine protein kinase that acts as a sensor for ATP and amino acids, balancing the availability of nutrients with translation and cell growth. The tuberlin/hamartin (TSC2/TSC1) complex inhibits mTOR activity indirectly by inhibiting Rheb through the tuberlin GAP activity (7).	
Background References	1. Yamagata, K. et al. (1994) <i>J Biol Chem</i> 269, 16333-9. 2. Yee, W.M. and Worley, P.F. (1997) <i>Mol Cell Biol</i> 17, 921-33. 3. Inoki, K. et al. (2003) <i>Genes Dev</i> 17, 1829-34. 4. Stocker, H. et al. (2003) <i>Nat Cell Biol</i> 5, 559-65. 5. Saucedo, L.J. et al. (2003) <i>Nat Cell Biol</i> 5, 566-71. 6. Zhang, Y. et al. (2003) <i>Nat Cell Biol</i> 5, 578-81. 7. Li, Y. et al. (2004) <i>Trends Biochem Sci</i> 29, 32-8.	

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	WB: Western Blotting IP: Immunoprecipitation
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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