

#4935 Store at -20°C

Rheb Antibody

100 µl
 (10 western blots)



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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

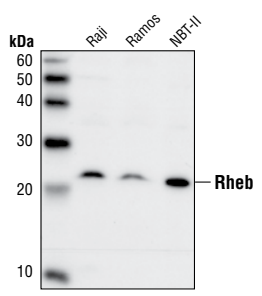
Entrez-Gene ID # 6009

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IHC-P, F Endogenous	H, M, R, Sc, (B)	21 kDa	Rabbit**

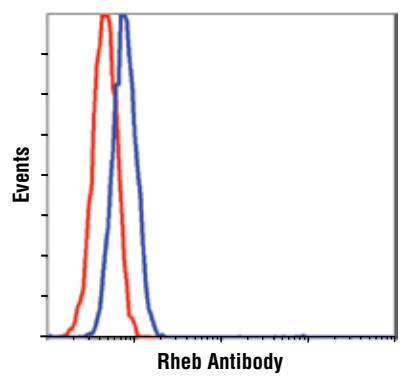
Background: Rheb (Ras Homolog Enriched in Brain) is an evolutionarily conserved member of the Ras family of small GTP-binding proteins originally found to be rapidly induced by synaptic activity in the hippocampus following seizure (1). While it is expressed at relatively high levels in the brain, Rheb is widely expressed in other tissues and may be induced by growth factor stimulation. Like other 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 tuberin/hamartin (TSC2/TSC1) complex inhibits mTOR activity indirectly by inhibiting Rheb via tuberin's GAP activity (7).

Specificity/Sensitivity: Rheb Antibody detects endogenous levels of Rheb. The antibody does not cross-react with other family members at physiological levels.

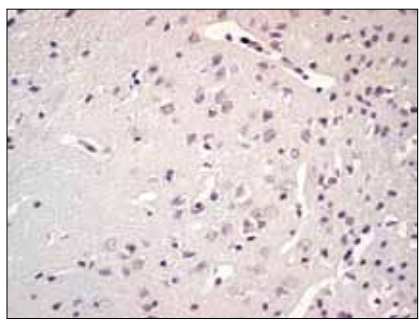
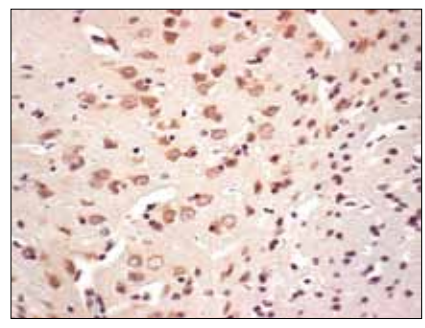
Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asn50 of Rheb. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from Raji, Ramos, and NBT-III cells, using Rheb Antibody.



Flow cytometric analysis of untreated Jurkat cells, using Rheb antibody (blue) compared to a nonspecific negative control antibody (red).



Immunohistochemical analysis of paraffin-embedded mouse brain, showing cytoplasmic localization, using Rheb Antibody in the presence of control peptide (left) or antigen specific peptide (right).

Storage: 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.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

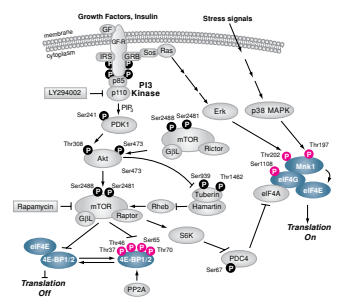
Western Blotting	1:1000
Immunohistochemistry (Paraffin)	1:400
Unmasking buffer:	Citrate
Antibody diluent:	PBST-5% NGS
Flow Cytometry	1:50

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

- (1) Yamagata, K. et al. (1994) *J. Biol. Chem.* 269, 16333–16339.
- (2) Yee, W.M. and Worley, P.F. (1997) *Mol. Cell. Biol.* 17, 921–933.
- (3) Inoki, et al. (2003) *Genes Dev.* 17, 1829–1834.
- (4) Stocker, H. et al. (2003) *Nature Cell Biol.* 5, 559–565.
- (5) Saucedo, L.J. et al. (2003) *Nat. Cell Biol.* 5, 566–571.
- (6) Zhang, Y. et al. (2003) *Nat. Cell Biol.* 5, 578–581.
- (7) Li, Y. et al. (2004) *Trends Biochem. Sci.* 1, 32–38.



IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey 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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.

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