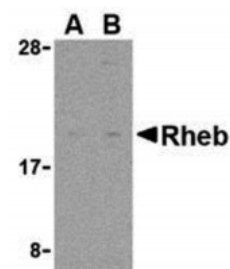




## Rheb Antibody

CATALOG NUMBER: 3499



Western blot analysis of Rheb in rat heart cell lysate with Rheb antibody at (A) 2 and (B) 4 ug/mL.

### Specifications

<b>SPECIES REACTIVITY:</b>	Human, Mouse, Rat
<b>HOMOLOGY:</b>	Predicted species reactivity based on immunogen sequence: Bovine: (100%)
<b>TESTED APPLICATIONS:</b>	ELISA, WB
<b>APPLICATIONS:</b>	Rheb antibody can be used for the detection of Rheb by Western blot at 2 and 4 ug/mL.
<b>USER NOTE:</b>	Optimal dilutions for each application to be determined by the researcher.
<b>POSITIVE CONTROL:</b>	1) Cat. No. 1461 - Rat Heart Tissue Lysate
<b>SPECIFICITY:</b>	Post-translationally modified Rheb is sometimes observed at higher molecular weight.
<b>IMMUNOGEN:</b>	Rabbit Rheb polyclonal antibody was raised against a 14 amino acid synthetic peptide from the amino terminus of human Rheb.  The immunogen is located within the first 50 amino acids of Rheb.
<b>HOST SPECIES:</b>	Rabbit

### Properties

<b>PURIFICATION:</b>	Rheb Antibody is affinity chromatography purified via peptide column.
<b>PHYSICAL STATE:</b>	Liquid
<b>BUFFER:</b>	Rheb Antibody is supplied in PBS containing 0.02% sodium azide.
<b>CONCENTRATION:</b>	1 mg/mL
<b>STORAGE CONDITIONS:</b>	Rheb antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
<b>CLONALITY:</b>	Polyclonal
<b>ISOTYPE:</b>	IgG
<b>CONJUGATE:</b>	Unconjugated

### Additional Info

<b>ALTERNATE NAMES:</b>	Rheb Antibody: RHEB2, RHEB2, GTP-binding protein Rheb, Ras homolog enriched in brain
<b>ACCESSION NO.:</b>	AAH16155
<b>PROTEIN GI NO.:</b>	16740561
<b>OFFICIAL SYMBOL:</b>	RHEB
<b>GENE ID:</b>	6009

## Background

<b>BACKGROUND:</b>	Rheb Antibody: 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. 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. Similar to other family members, Rheb triggers activation of the Raf-MEK-MAPK pathway. Biochemical and genetic studies demonstrate that Rheb has an important role in regulating the insulin/Target of rapamycin (TOR) signaling pathway. TOR is a serine/threonine protein kinase that acts as a sensor for ATP and amino acids, balancing the availability of nutrients with protein translation and cell growth. A dimeric protein complex termed TSC1/TSC2 indirectly inhibits TOR activity by inhibiting Rheb via the GAP activity of TSC2.
<b>REFERENCES:</b>	<p>1) Yamagata K, Sanders LK, Kaufman WE, et al. rheb, a growth factor- and synaptic activity-regulated gene, encodes a novel Ras-related protein. J. Biol. Chem. 1994; 269:16333-9.</p> <p>2) Yee WM and Worley PF. Rheb interacts with Raf-1 kinase and may function to integrate growth factor- and protein kinase A-dependent signals. Mol. Cell. Biol. 1997; 17:921-3.</p> <p>3) Inoki K, Li Y, Xu T, et al. Rheb GTPase is a direct target of TSC2 GAP activity and regulates mTOR signaling. Genes Dev. 2003; 17:1829-34.</p> <p>4) Stocker H, Radimerski T, Schindelholtz B, et al. Rheb is an essential regulator of S6K in controlling cell growth in Drosophila. Nat. Cell Biol. 2003; 5:559-65.</p>

**FOR RESEARCH USE ONLY**

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