

RHEB Antibody (Center) Blocking Peptide
Synthetic peptide
Catalog # BP6378c**Specification**

RHEB Antibody (Center) Blocking Peptide - Product InformationPrimary Accession [Q15382](#)**RHEB Antibody (Center) Blocking Peptide - Additional Information****Gene ID** 6009**Other Names**

GTP-binding protein Rheb, Ras homolog enriched in brain, RHEB, RHEB2

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP6378c](/products/AP6378c) was selected from the Center region of human RHEB. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

RHEB Antibody (Center) Blocking Peptide - Protein Information**Name** RHEB {ECO:0000303|PubMed:8543055, ECO:0000312|HGNC:HGNC:10011}**Function**

Small GTPase that acts as an allosteric activator of the canonical mTORC1 complex, an evolutionarily conserved central nutrient sensor that stimulates anabolic reactions and macromolecule biosynthesis to promote cellular biomass generation and growth (PubMed:[12172553](http://www.uniprot.org/citations/12172553), PubMed:[12906785](http://www.uniprot.org/citations/12906785), PubMed:[12271141](http://www.uniprot.org/citations/12271141), PubMed:[12842888](http://www.uniprot.org/citations/12842888), PubMed:[12869586](http://www.uniprot.org/citations/12869586), PubMed:[15340059](http://www.uniprot.org/citations/15340059), PubMed:[15854902](http://www.uniprot.org/citations/15854902), PubMed:[16098514](http://www.uniprot.org/citations/16098514), PubMed:[20381137](http://www.uniprot.org/citations/20381137)).

[24529379](http://www.uniprot.org/citations/24529379), PubMed: [22819219](http://www.uniprot.org/citations/22819219), PubMed: [29416044](http://www.uniprot.org/citations/29416044), PubMed: [32470140](http://www.uniprot.org/citations/32470140), PubMed: [33157014](http://www.uniprot.org/citations/33157014)). In response to nutrients, growth factors or amino acids, specifically activates the protein kinase activity of MTOR, the catalytic component of the mTORC1 complex: acts by causing a conformational change that allows the alignment of residues in the active site of MTOR, thereby enhancing the phosphorylation of ribosomal protein S6 kinase (RPS6KB1 and RPS6KB2) and EIF4EBP1 (4E-BP1) (PubMed: [33157014](http://www.uniprot.org/citations/33157014)), PubMed: [29236692](http://www.uniprot.org/citations/29236692)). RHEB is also required for localization of the TSC-TBC complex to lysosomal membranes (PubMed: [24529379](http://www.uniprot.org/citations/24529379)). In response to starvation, RHEB is inactivated by the TSC-TBC complex, preventing activation of mTORC1 (PubMed: [24529379](http://www.uniprot.org/citations/24529379), PubMed: [33157014](http://www.uniprot.org/citations/33157014)). Has low intrinsic GTPase activity (PubMed: [15340059](http://www.uniprot.org/citations/15340059)).

Cellular Location

Endomembrane system; Lipid-anchor; Cytoplasmic side. Lysosome membrane; Lipid- anchor; Cytoplasmic side. Golgi apparatus membrane; Lipid-anchor; Cytoplasmic side. Endoplasmic reticulum membrane; Lipid-anchor; Cytoplasmic side. Cytoplasm, cytosol. Note=Farnesylation is required for recruitment to lysosomal membranes, where it activates the mTORC1 complex.

Tissue Location

Ubiquitous (PubMed:8543055). Highest levels observed in skeletal and cardiac muscle (PubMed:8543055)

RHEB Antibody (Center) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

RHEB Antibody (Center) Blocking Peptide - Images

RHEB Antibody (Center) Blocking Peptide - Background

RHEB is a member of the small GTPase superfamily and encodes a lipid-anchored, cell membrane protein with five repeats of the RAS-related GTP-binding region. This protein is vital in regulation of growth and cell cycle progression due to its role in the insulin/TOR/S6K signaling pathway. RHEB has GTPase activity and shuttles between a GDP-bound form and a GTP-bound form, and farnesylation of the protein is required for this activity.

RHEB Antibody (Center) Blocking Peptide - References

Sun,Y., Proc. Natl. Acad. Sci. U.S.A. 105 (24), 8286-8291 (2008) Bai,X., Science 318 (5852), 977-980 (2007)