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Anti-RHEB Antibody (clone 2C11)

Mouse Anti Human Monoclonal Antibody
Catalog # ALS18144

Product Information

Application	WB, IHC-P, E
Primary Accession	Q15382
Predicted	Human, Mouse, Rat
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1,k
Clone Names	2C11
Calculated MW	20497
Concentration (mg/ml)	0.41 mg/ml

Additional Information

Gene ID	6009
Alias Symbol	RHEB
Other Names	RHEB, RHEB2, GTP-binding protein Rheb, Ras homolog enriched in brain
Target/Specificity	Human RHEB
Reconstitution & Storage	Protein A purified
Precautions	Anti-RHEB Antibody (clone 2C11) is for research use only and not for use in diagnostic or therapeutic procedures.

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, PubMed:12271141, PubMed:12842888, PubMed:12869586, PubMed:12906785, PubMed:15340059, PubMed:15854902, PubMed:16098514, PubMed:20381137, PubMed:22819219, PubMed:24529379, PubMed:29416044, PubMed:32470140, PubMed:33157014, PubMed:25816988). 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:29236692, PubMed:33157014). RHEB is also required for localization of the TSC-TBC complex to lysosomal membranes (PubMed:24529379). In response to starvation, RHEB is inactivated by the TSC-TBC complex, preventing activation of mTORC1 (PubMed:24529379, PubMed:33157014). Has low intrinsic GTPase activity (PubMed: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)

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.