10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Phospho-mouse TSC2(S1421) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3828a

Product Information

Application	DB, E
Primary Accession	Q61037
Other Accession	P49816
Reactivity	Mouse
Predicted	Rat, Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB41671
Calculated MW	202071

Additional Information

Other Names	Tuberin, Tuberous sclerosis 2 protein homolog, Tsc2
Target/Specificity	This mouse TSC2 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding S1421 of mouse TSC2.
Dilution	DB~~1:500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Phospho-mouse TSC2(S1421) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

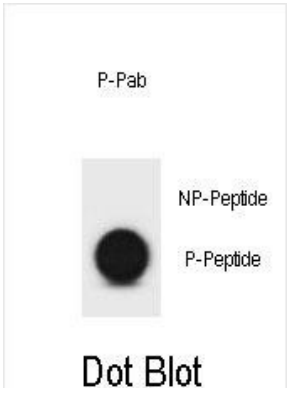
Name	Tsc2 {ECO:0000303|PubMed:8777431, ECO:0000312|MGI:MGI:102548}
Function	Catalytic component of the TSC-TBC complex, a multiprotein complex that acts as a negative regulator of the canonical mTORC1 complex, an evolutionarily conserved central nutrient sensor that stimulates anabolic reactions and macromolecule biosynthesis to promote cellular biomass generation and growth (PubMed:12820960, PubMed:24529379). Within the TSC-TBC complex, TSC2 acts as a GTPase- activating protein (GAP) for the

	small GTPase RHEB, a direct activator of the protein kinase activity of mTORC1 (PubMed:12820960, PubMed:24529379). In absence of nutrients, the TSC-TBC complex inhibits mTORC1, thereby preventing phosphorylation of ribosomal protein S6 kinase (RPS6KB1 and RPS6KB2) and EIF4EBP1 (4E-BP1) by the mTORC1 signaling (PubMed:12820960, PubMed:24529379). The TSC-TBC complex is inactivated in response to nutrients, relieving inhibition of mTORC1 (PubMed:24529379). Involved in microtubule-mediated protein transport via its ability to regulate mTORC1 signaling (PubMed:16707451). Also stimulates the intrinsic GTPase activity of the Ras-related proteins RAP1A and RAB5 (By similarity).
Cellular Location	Lysosome membrane; Peripheral membrane protein. Cytoplasm, cytosol. Note=Recruited to lysosomal membranes in a RHEB-dependent process in absence of nutrients. In response to insulin signaling and phosphorylation by PKB/AKT1, the complex dissociates from lysosomal membranes and relocalizes to the cytosol.
Tissue Location	Widely expressed..

Background

In complex with TSC1, inhibits the nutrient-mediated or growth factor-stimulated phosphorylation of S6K1 and EIF4EBP1 by negatively regulating mTORC1 signaling. Acts as a GTPase-activating protein (GAP) for the small GTPase RHEB, a direct activator of the protein kinase activity of mTORC1. Implicated as a tumor suppressor. Involved in microtubule-mediated protein transport, but this seems to be due to unregulated mTOR signaling (By similarity). Specifically stimulates the intrinsic GTPase activity of the Ras-related protein RAP1A and RAB5. Suggesting a possible mechanism for its role in regulating cellular growth (By similarity).

Images



Dot blot analysis of mouse TSC2 Antibody (Phospho S1421) Phospho-specific Pab (Cat. #AP3828a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.6ug per ml.

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