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Phospho-mouse TSC2(S1412) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3826a

Product Information

Application	DB, E
Primary Accession	Q61037
Reactivity	Mouse
Predicted	Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB41259
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 S1412 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(S1412) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

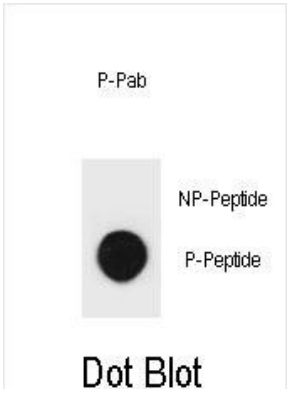
Name	Tsc2 {ECO:0000303|PubMed:8777431, ECO:0000312|MGI:MGI:102548}
Function	Catalytic component of the TSC-TBC complex, a multiprotein complex that acts as a negative regulator of the canonical mTORC1 complex, an evolutionarily conserved central nutrient sensor that stimulates anabolic reactions and 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 S1412) Phospho-specific Pab (Cat. #AP3826a) 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'.