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# Phospho-mouse TSC1(T1043) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3818a

## Product Information

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|---|---|
| **Application** | DB, E |
| **Primary Accession** | Q9EP53 |
| **Other Accession** | NP_075025.2 |
| **Reactivity** | Mouse |
| **Predicted** | Rat, Canine |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Clone Names** | RB41241 |
| **Calculated MW** | 128746 |

## Additional Information

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|---|---|
| **Gene ID** | 64930 |
| **Other Names** | Hamartin, Tuberous sclerosis 1 protein homolog, Tsc1, Kiaa0243 |
| **Target/Specificity** | This mouse TSC1 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding T1043 of mouse TSC1. |
| **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 TSC1(T1043) Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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|---|---|
| **Name** | Tsc1 {ECO:0000303\|PubMed:11130985, ECO:0000312\|MGI:MGI:1929183} |
| **Function** | Non-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). The TSC-TBC complex acts as a GTPase-activating protein (GAP) for the small GTPase RHEB, a direct activator of the protein kinase activity of mTORC1 (PubMed:12820960). 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). The TSC-TBC complex is inactivated in response to nutrients, relieving inhibition of mTORC1 (By similarity). Within the TSC-TBC complex, TSC1 stabilizes TSC2 and prevents TSC2 self-aggregation (By similarity). Involved in microtubule-mediated protein transport via its ability to regulate mTORC1 signaling (PubMed:16707451). Also acts as a co-chaperone for HSP90AA1 facilitating HSP90AA1 chaperoning of protein clients such as kinases, TSC2 and glucocorticoid receptor NR3C1 (By similarity). Increases ATP binding to HSP90AA1 and inhibits HSP90AA1 ATPase activity (PubMed:29127155). Competes with the activating co-chaperone AHSA1 for binding to HSP90AA1, thereby providing a reciprocal regulatory mechanism for chaperoning of client proteins (By similarity). Recruits TSC2 to HSP90AA1 and stabilizes TSC2 by preventing the interaction between TSC2 and ubiquitin ligase HERC1 (By similarity).

**Cellular Location**

Lysosome membrane {ECO:0000250|UniProtKB:Q92574}; Peripheral membrane protein {ECO:0000250|UniProtKB:Q92574}. Cytoplasm, cytosol {ECO:0000250|UniProtKB:Q92574}. Note=Recruited to lysosomal membranes in a RHEB-dependent process in absence of nutrients. In response to nutrients, the complex dissociates from lysosomal membranes and relocalizes to the cytosol. {ECO:0000250|UniProtKB:Q92574}

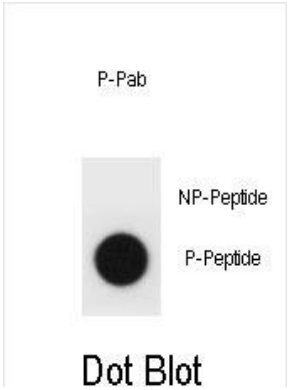
## Background

In complex with TSC2, inhibits the nutrient-mediated or growth factor-stimulated phosphorylation of S6K1 and EIF4EBP1 by negatively regulating mTORC1 signaling (By similarity). Implicated as a tumor suppressor. Involved in microtubule-mediated protein transport, but this seems to be due to unregulated mTOR signaling (By similarity).

## References


Kladney, R.D., et al. Cancer Res. 70(21):8937-8947(2010)
Sathaliyawala, T., et al. Immunity 33(4):597-606(2010)
Scott, C.L., et al. Am. J. Physiol. Lung Cell Mol. Physiol. 299 (4), L455-L471 (2010) :
Bartolome, A., et al. Endocrinology 151(7):3084-3094(2010)
Squarize, C.H., et al. PLoS ONE 5 (5), E10643 (2010) :


## Images




Dot blot analysis of mouse TSC1 Antibody (Phospho T1043) Phospho-specific Pab (Cat. #AP3818a) 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'.