

**Phospho-mouse TSC2(S1421) Antibody**  
**Affinity Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP3828a**

## Specification

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### Phospho-mouse TSC2(S1421) Antibody - Product Information

Application	DB,E
Primary Accession	<a href="#">Q61037</a>
Other Accession	<a href="#">P49816</a>
Reactivity	Mouse
Predicted	Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	202071

### Phospho-mouse TSC2(S1421) Antibody - 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.

### Phospho-mouse TSC2(S1421) Antibody - 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 relocates to the cytosol.

#### **Tissue Location**

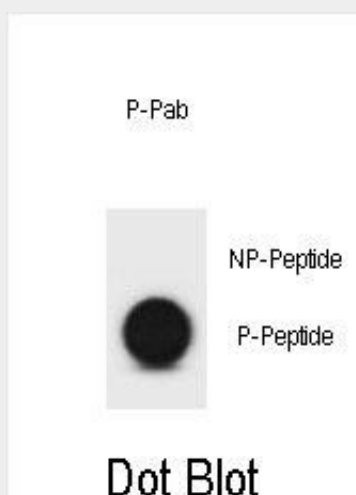
Widely expressed..

### **Phospho-mouse TSC2(S1421) Antibody - Protocols**

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### **Phospho-mouse TSC2(S1421) Antibody - 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.

### **Phospho-mouse TSC2(S1421) Antibody - 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).