

**Phospho-mouse TSC2(S1365) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP3825a****Specification**

---

**Phospho-mouse TSC2(S1365) Blocking Peptide - Product Information**

Primary Accession [O61037](#)  
Other Accession [P49816](#)

**Phospho-mouse TSC2(S1365) Blocking Peptide - Additional Information****Other Names**

Tuberin, Tuberous sclerosis 2 protein homolog, Tsc2

**Target/Specificity**

The synthetic peptide sequence is selected from aa 1358-1371 of MOUSE Tsc2

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**Phospho-mouse TSC2(S1365) Blocking Peptide - 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:<a href="http://www.uniprot.org/citations/12820960" target="\_blank">12820960</a>, PubMed:<a href="http://www.uniprot.org/citations/24529379" target="\_blank">24529379</a>). 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:<a href="http://www.uniprot.org/citations/12820960" target="\_blank">12820960</a>, PubMed:<a href="http://www.uniprot.org/citations/24529379" target="\_blank">24529379</a>). 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:<a href="http://www.uniprot.org/citations/12820960" target="\_blank">12820960</a>, PubMed:<a href="http://www.uniprot.org/citations/24529379" target="\_blank">24529379</a>). The TSC-TBC complex is inactivated in response to nutrients, relieving inhibition of mTORC1 (PubMed:<a href="http://www.uniprot.org/citations/24529379" target="\_blank">24529379</a>). Involved in

microtubule-mediated protein transport via its ability to regulate mTORC1 signaling (PubMed:<a href="http://www.uniprot.org/citations/16707451" target="\_blank">16707451</a>). 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(S1365) Blocking Peptide - Protocols**

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

- [Blocking Peptides](#)

**Phospho-mouse TSC2(S1365) Blocking Peptide - Images****Phospho-mouse TSC2(S1365) Blocking Peptide - 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).