

TSC1 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10743**Specification**

TSC1 Antibody - Product Information

Application	WB
Primary Accession	Q9EP53
Other Accession	NP_075025
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	128746

TSC1 Antibody - Additional Information**Gene ID** 64930

Positive Control	Jurkat, Rat kidney, 3T3 cell lysates
Application & Usage	The antibody can be used for Western blotting (1-4 µg/ml).

Other Names
TSC1; TSC; KIAA0243; LAM; MGC86987**Target/Specificity**
TSC1**Antibody Form**
Liquid**Appearance**
Colorless liquid**Formulation**
200 µg (0.5 mg/ml) affinity purified rabbit anti-TSC1 polyclonal antibody in phosphate buffered saline (PBS), pH 7.2, containing 30% glycerol, 0.5% BSA, 5 mM EDTA and 0.01% thimerosal.**Handling**
The antibody solution should be gently mixed before use.**Reconstitution & Storage**
-20 °C**Background Descriptions****Precautions**
TSC1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

TSC1 Antibody - Protein Information

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 relocates to the cytosol. {ECO:0000250|UniProtKB:Q92574}

TSC1 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](#)

TSC1 Antibody - Images

TSC1 Antibody - Background

Tuberous sclerosis complex (TSC) is an autosomal dominant tumor syndrome caused by mutations

in either of the TSC1 or TSC2 tumor suppressor genes. The products of these genes form a protein complex that indirectly decreases the signaling of the mammalian Target of Rapamycin (TOR), an evolutionarily conserved serine/threonine kinase that regulates cell growth and cell cycle through its ability to integrate signals from nutrient levels and growth factors