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TSC2 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10750

Specification

TSC2 Antibody - Product Information

Application	**WB**
Primary Accession	P49816
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**201278**

TSC2 Antibody - Additional Information

Gene ID 24855

Positive Control	**Jurkat (Induced and Uninduced), Rat kidney, 3T3 cell lysates**
Application & Usage	**The antibody can be used for Western blot analysis (1-4 µg/ml). However, the optimal conditions should be determined individually. Blocking peptide is available separately.**

Other Names
anti-TSC2, Tuberin, Tuberous sclerosis 2 protein homolog

Target/Specificity
TSC2

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
200 µg (0.5 mg/ml) affinity purified rabbit anti-TSC2 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
TSC2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

TSC2 Antibody - Protein Information

Name Tsc2 {ECO:0000303|PubMed:8519695, ECO:0000312|RGD:3908}

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:12172553). 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 (By similarity). 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 (By similarity). The TSC-TBC complex is inactivated in response to nutrients, relieving inhibition of mTORC1 (By similarity). 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 (PubMed:9045618).

Cellular Location
Lysosome membrane {ECO:0000250|UniProtKB:P49815}; Peripheral membrane protein {ECO:0000250|UniProtKB:P49815}. Cytoplasm, cytosol {ECO:0000250|UniProtKB:P49815}. Note=Recruited to lysosomal membranes in a RHEB-dependent process in absence of nutrients (By similarity). In response to insulin signaling and phosphorylation by PKB/AKT1, the complex dissociates from lysosomal membranes and relocalizes to the cytosol (By similarity) {ECO:0000250|UniProtKB:P49815}

Tissue Location
CNS, uterus, heart, skeletal muscle, kidney and spleen.

TSC2 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 Cytomety
- Cell Culture

TSC2 Antibody - Images

TSC2 Antibody - Background

TSC2 is important in regulating cell proliferation and tumor development. Mutations in either the TSC1 or TSC2 tumor suppressor genes caused tuberous sclerosis complex (TSC), an autosomal dominant tumor syndrome. Tuberin is a product of the TSC2 tumor suppressor gene. Tuberin form a

protein complex that indirectly decreases the signaling of the mammalian Target of Rapamycin (TOR).