

**Anti-Tuberin Antibody**  
Catalog # ABO11485**Specification**

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**Anti-Tuberin Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">P49815</a>
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for Tuberin(TSC2) detection. Tested with WB in Human;Mouse;Rat.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-Tuberin Antibody - Additional Information**

**Gene ID** 7249

**Other Names**

Tuberin, Tuberous sclerosis 2 protein, TSC2, TSC4

**Calculated MW**

200608 MW KDa

**Application Details**

Western blot, 0.1-0.5 µg/ml, Mouse, Rat, Human<br>

**Subcellular Localization**

Cytoplasm. Membrane; Peripheral membrane protein. At steady state found in association with membranes.

**Tissue Specificity**

Liver, brain, heart, lymphocytes, fibroblasts, biliary epithelium, pancreas, skeletal muscle, kidney, lung and placenta.

**Protein Name**

Tuberin

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Thimerosal, 0.05mg NaN<sub>3</sub>.

**Immunogen**

A synthetic peptide corresponding to a sequence at the C-terminus of human Tuberin(1605-1620aa QFTYCW HDDIMQAVFH), identical to the related mouse and rat sequences.

**Purification**

Immunogen affinity purified.

### Cross Reactivity

No cross reactivity with other proteins

### Storage

**At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.**

### Sequence Similarities

Contains 1 Rap-GAP domain.

## Anti-Tuberin Antibody - Protein Information

**Name** TSC2 {ECO:0000303|PubMed:7558029, ECO:0000312|HGNC:HGNC:12363}

### 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](http://www.uniprot.org/citations/12172553), PubMed: [12271141](http://www.uniprot.org/citations/12271141), PubMed: [12842888](http://www.uniprot.org/citations/12842888), PubMed: [12906785](http://www.uniprot.org/citations/12906785), PubMed: [15340059](http://www.uniprot.org/citations/15340059), PubMed: [22819219](http://www.uniprot.org/citations/22819219), PubMed: [24529379](http://www.uniprot.org/citations/24529379), PubMed: [28215400](http://www.uniprot.org/citations/28215400), PubMed: [33436626](http://www.uniprot.org/citations/33436626), PubMed: [35772404](http://www.uniprot.org/citations/35772404)). 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: [12172553](http://www.uniprot.org/citations/12172553), PubMed: [12820960](http://www.uniprot.org/citations/12820960), PubMed: [12842888](http://www.uniprot.org/citations/12842888), PubMed: [12906785](http://www.uniprot.org/citations/12906785), PubMed: [15340059](http://www.uniprot.org/citations/15340059), PubMed: [22819219](http://www.uniprot.org/citations/22819219), PubMed: [24529379](http://www.uniprot.org/citations/24529379), PubMed: [33436626](http://www.uniprot.org/citations/33436626), PubMed: [35772404](http://www.uniprot.org/citations/35772404)). 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: [12172553](http://www.uniprot.org/citations/12172553), PubMed: [12271141](http://www.uniprot.org/citations/12271141), PubMed: [12842888](http://www.uniprot.org/citations/12842888), PubMed: [12906785](http://www.uniprot.org/citations/12906785), PubMed: [22819219](http://www.uniprot.org/citations/22819219), PubMed: [24529379](http://www.uniprot.org/citations/24529379), PubMed: [28215400](http://www.uniprot.org/citations/28215400), PubMed: [35772404](http://www.uniprot.org/citations/35772404)). The TSC-TBC complex is inactivated in response to nutrients, relieving inhibition of mTORC1 (PubMed: [12172553](http://www.uniprot.org/citations/12172553), PubMed: [24529379](http://www.uniprot.org/citations/24529379)). Involved in

microtubule-mediated protein transport via its ability to regulate mTORC1 signaling (By similarity). 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 (PubMed:24529379). In response to insulin signaling and phosphorylation by PKB/AKT1, the complex dissociates from lysosomal membranes and relocates to the cytosol (PubMed:24529379)

#### Tissue Location

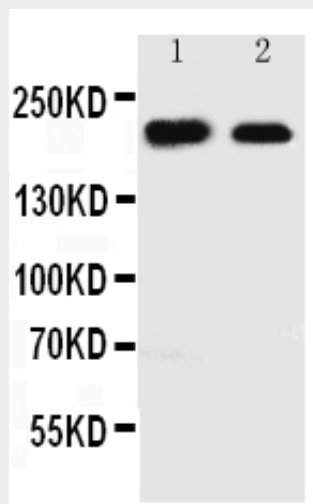
Liver, brain, heart, lymphocytes, fibroblasts, biliary epithelium, pancreas, skeletal muscle, kidney, lung and placenta.

### Anti-Tuberin 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](#)

### Anti-Tuberin Antibody - Images



Anti-Tuberin antibody, ABO11485, Western blotting Lane 1: Rat Liver Tissue Lysate Lane 2: HEPA Cell Lysate

### Anti-Tuberin Antibody - Background

Tuberous sclerosis 2 protein, also known as TSC2 or Tuberin is a protein that is in humans. The chromosomal location of this gene is 16p13.3. Mutations in this gene lead to tuberous sclerosis complex. Its gene product is believed to be a tumor suppressor and is able to stimulate specific GTPases. The protein associates with hamartin in a cytosolic complex, possibly acting as a

chaperone for hamartin. This gene involved in microtubule-mediated protein transport, but this seems to be due to unregulated mTOR signaling. It stimulates weakly the intrinsic GTPase activity of the Ras-related proteins RAP1A and RAB5 in vitro.