

**TSC2-S1798/S1799**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP22393a****Specification**

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**TSC2-S1798/S1799 - Product Information**

Application	WB,E
Primary Accession	<a href="#">P49815</a>
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Calculated MW	200608

**TSC2-S1798/S1799 - Additional Information****Gene ID** 7249**Other Names**

Tuberin, Tuberous sclerosis 2 protein, TSC2, TSC4

**Target/Specificity**

This antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between amino acids from human.

**Dilution**

WB~~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**

TSC2-S1798/S1799 is for research use only and not for use in diagnostic or therapeutic procedures.

**TSC2-S1798/S1799 - 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](#), PubMed:[12271141](#), PubMed:[12842888](#),

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

Lysosomal 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.

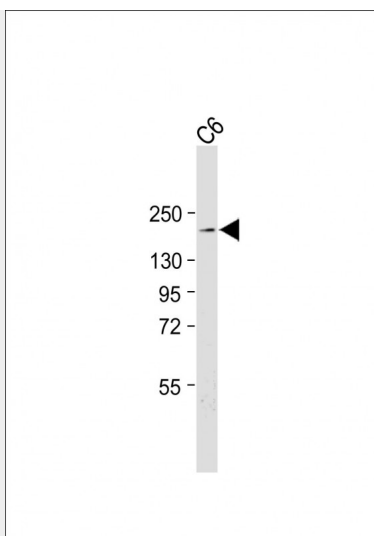
## TSC2-S1798/S1799 - Protocols

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](#)

## TSC2-S1798/S1799 - Images





All lanes : Anti-TSC2-S1798/S1799 at 1:500 dilution Lane 1: C6 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size : 200kDa Blocking/Dilution buffer: 5% NFDM/TBST.

### **TSC2-S1798/S1799 - Background**

In complex with TSC1, this tumor suppressor inhibits the nutrient-mediated or growth factor-stimulated phosphorylation of S6K1 and EIF4EBP1 by negatively regulating mTORC1 signaling (PubMed:12271141, PubMed:28215400). Acts as a GTPase-activating protein (GAP) for the small GTPase RHEB, a direct activator of the protein kinase activity of mTORC1 (PubMed:15340059). May also play a role in microtubule-mediated protein transport (By similarity). Also stimulates the intrinsic GTPase activity of the Ras-related proteins RAP1A and RAB5 (By similarity).

### **TSC2-S1798/S1799 - References**

Nellist M.,et al.Cell 75:1305-1315(1993).  
Sampson J.R.,et al.Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.  
Xu L.,et al.Genomics 27:475-480(1995).  
Maheshwar M.M.,et al.Hum. Mol. Genet. 5:131-137(1996).  
Corominas R.,et al.Nat. Commun. 5:3650-3650(2014).