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Phospho-TSC2(S1798) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3478a

Specification

Phospho-TSC2(S1798) Antibody - Product Information

Application	**IF, DB,E**
Primary Accession	P49815
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**200608**

Phospho-TSC2(S1798) Antibody - Additional Information

Gene ID 7249

Other Names
Tuberin, Tuberous sclerosis 2 protein, TSC2, TSC4

Target/Specificity
This TSC2 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding S1798 of human TSC2.

Dilution
IF~~1:10~50
DB~~1:500

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
Phospho-TSC2(S1798) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Phospho-TSC2(S1798) 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, PubMed:12271141, PubMed:12906785, PubMed:12842888, PubMed:28215400, PubMed:35772404, PubMed:15340059, PubMed:22819219, PubMed:24529379, PubMed:33436626). 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:12906785, PubMed:12842888, PubMed:15340059, PubMed:12820960, 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:12906785, PubMed:12842888, 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

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 relocalizes to the cytosol (PubMed:24529379)

Tissue Location

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

Phospho-TSC2(S1798) 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

Phospho-TSC2(S1798) Antibody - Images

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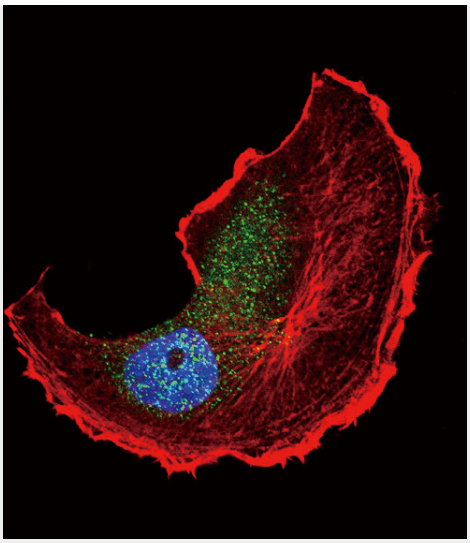
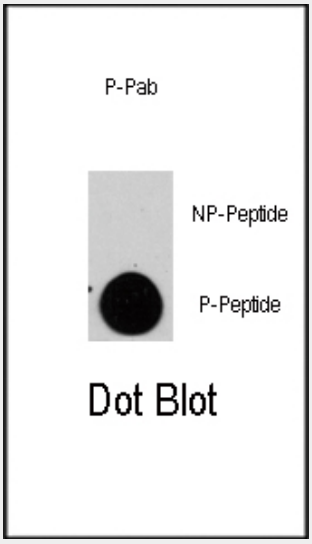


Confocal immunofluorescent analysis of Phospho-TSC2-S1798 Antibody(Cat#AP3478a) with MCF-7 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green).Actin filaments have been labeled with Alexa Fluor 555 phalloidin (red).DAPI was used to stain the cell nuclear (blue).



Dot blot analysis of anti-TSC2-pS1798 Phospho-specific Pab (RB13393) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.5ug per ml.

Phospho-TSC2(S1798) Antibody - Background

Mutations in TSC2 lead to tuberous sclerosis complex. The protein is believed to be a tumor suppressor and is able to specifically stimulate the intrinsic GTPase activity of the Ras-related protein RAP1A and RAB5. The protein associates with hamartin in a cytosolic complex, possibly acting as a chaperone for hamartin. TSC2 may have a function in vesicular transport, but may also play a role in the regulation of cell growth arrest and in the regulation of transcription mediated by steroid receptors. Interaction between TSC1 and TSC2 may facilitate vesicular docking.

Phospho-TSC2(S1798) Antibody - References

Li, Y., et al., Mol. Cell. Biol. 24(18):7965-7975 (2004). Karbowniczek, M., et al., J. Biol. Chem. 279(29):29930-29937 (2004). Corradetti, M.N., et al., Genes Dev. 18(13):1533-1538 (2004).

Birchenall-Roberts, M.C., et al., J. Biol. Chem. 279(24):25605-25613 (2004). Lewis, J.C., et al., J. Med. Genet. 41(3):203-207 (2004).