

Anti-Tuberin Picoband Antibody
Catalog # ABO11823**Specification****Anti-Tuberin Picoband Antibody - Product Information**

Application	WB, IHC
Primary Accession	P49815
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

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

Reconstitution

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

Anti-Tuberin Picoband Antibody - Additional Information

Gene ID 7249

Other Names

Tuberin, Tuberous sclerosis 2 protein, TSC2, TSC4

Calculated MW

200608 MW KDa

Application Details

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By Heat
Western blot, 0.1-0.5 µg/ml, Human

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 Na₂HPO₄, 0.05mg Na₃.

Immunogen

E.coli-derived human Tuberin recombinant protein (Position: H1611-V1807). Human Tuberin shares 94% and 90% amino acid (aa) sequences identity with mouse and rat Tuberin, respectively.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage**At -20°C for one year. After r°Constitution, 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 Picoband 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: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

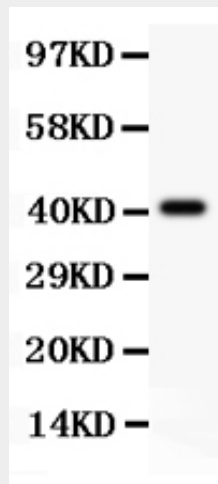
Liver, brain, heart, lymphocytes, fibroblasts, biliary epithelium, pancreas, skeletal muscle, kidney, lung and placenta.

Anti-Tuberin Picoband Antibody - Protocols

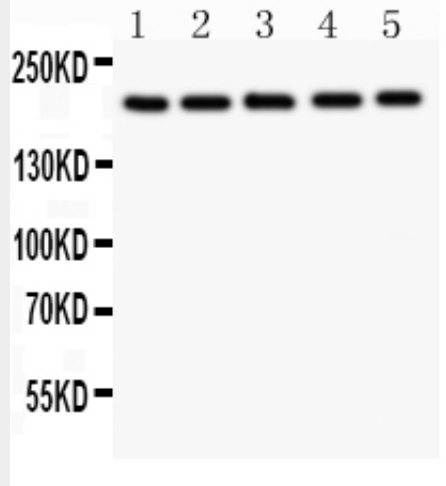
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

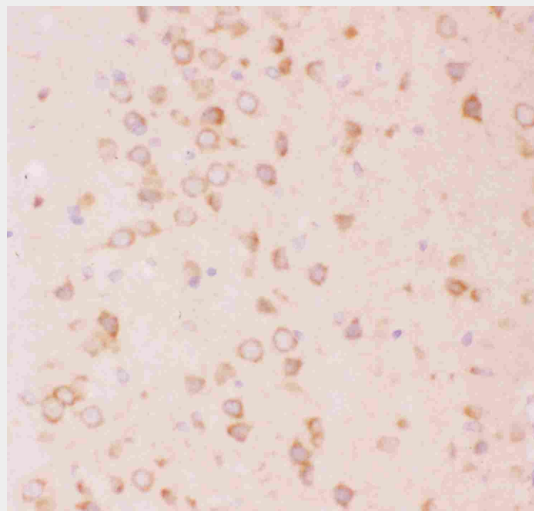
Anti-Tuberin Picoband Antibody - Images



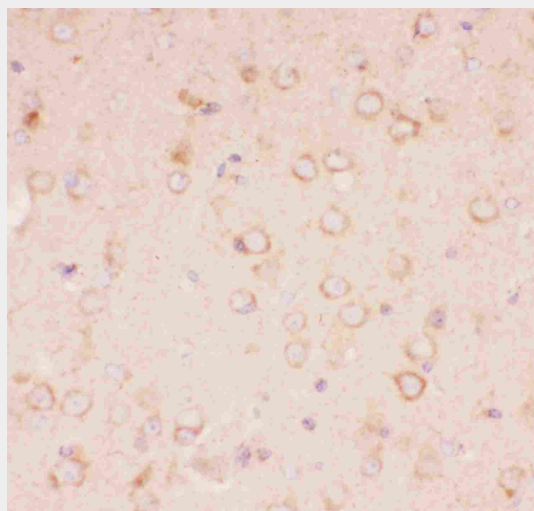
Anti-Tuberin Picoband antibody, ABO11823-1.jpg All lanes: Anti Tuberin (ABO11823) at 0.5ug/ml WB: Recombinant Human Tuberin Protein 0.5ng Predicted bind size: 41KD Observed bind size: 41KD



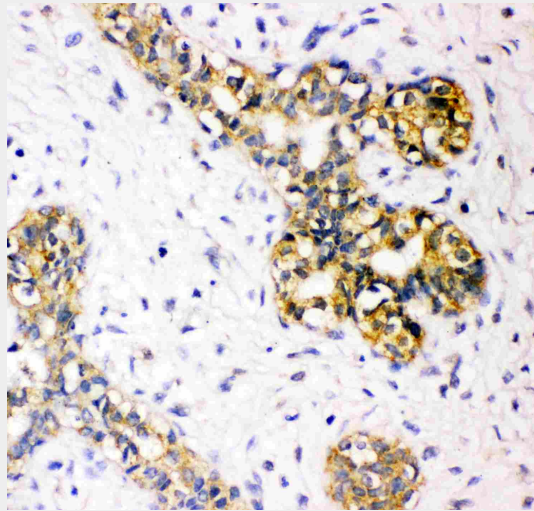
Anti-Tuberin Picoband antibody, ABO11823-2.jpg All lanes: Anti Tuberin (ABO11823) at 0.5ug/ml Lane 1: U2OS Whole Cell Lysate at 40ug Lane 2: PANC Whole Cell Lysate at 40ug Lane 3: HEPG2 Whole Cell Lysate at 40ug Lane 4: A549 Whole Cell Lysate at 40ug Lane 5: COLO320 Whole Cell Lysate at 40ug Predicted bind size: 201KD Observed bind size: 201KD



Anti-Tuberin Picoband antibody, ABO11823-3.jpg IHC(P): Rat Brain Tissue



Anti-Tuberin Picoband antibody, ABO11823-4.jpgIHC(P): Mouse Brain Tissue



Anti-Tuberin Picoband antibody, ABO11823-5.jpgIHC(P): Human Mammary Cancer Tissue

Anti-Tuberin Picoband 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.