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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 NaN3.

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:<a

href="http://www.uniprot.org/citations/24529379" target="_blank">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)

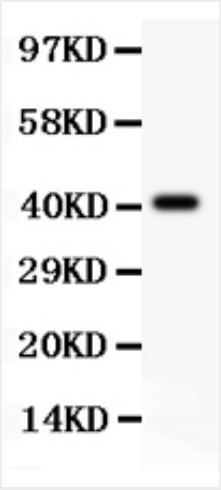
Tissue Location
Liver, brain, heart, lymphocytes, fibroblasts, biliary epithelium, pancreas, skeletal muscle, kidney, lung and placenta.

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 Cytomety
- Cell Culture

Anti-Tuberin Picoband Antibody - Images



Anti-Tuberin Picoband antibody, ABO11823-1.jpgAll lanes: Anti Tuberin (ABO11823) at 0.5ug/mlWB: Recombinant Human Tuberin Protein 0.5ngPredicted bind size: 41KDObserved bind size: 41KD

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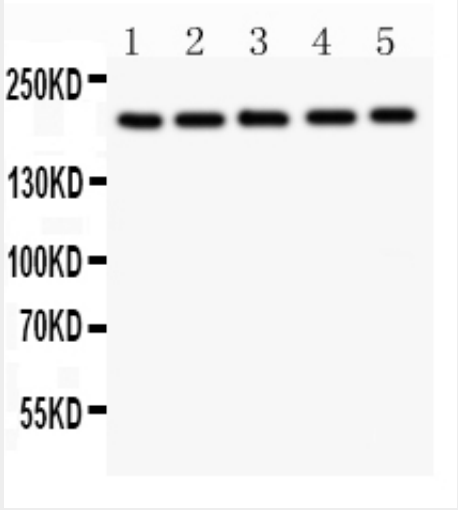
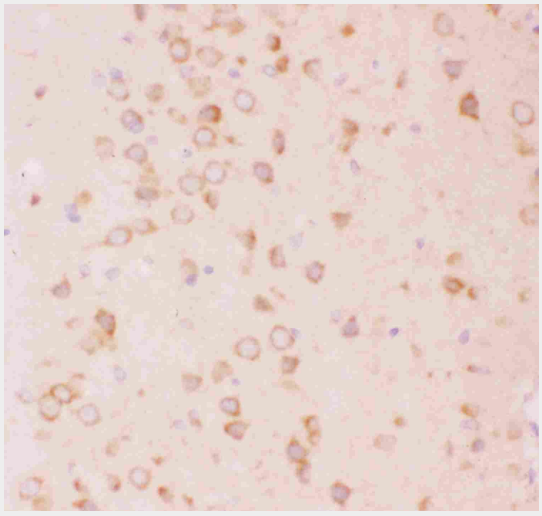
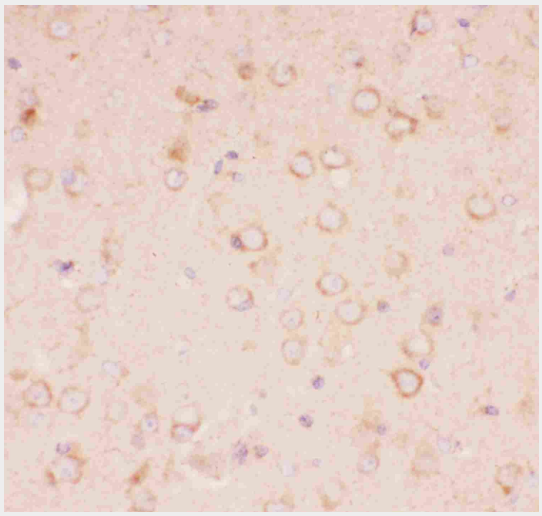


Anti-Tuberin Picoband antibody, ABO11823-2.jpgAll lanes: Anti Tuberin (ABO11823) at 0.5ug/mlLane 1: U20S Whole Cell Lysate at 40ugLane 2: PANC Whole Cell Lysate at 40ugLane 3: HEPG2 Whole Cell Lysate at 40ugLane 4: A549 Whole Cell Lysate at 40ugLane 5: COLO320 Whole Cell Lysate at 40ugPredicted bind size: 201KDObserved bind size: 201KD



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



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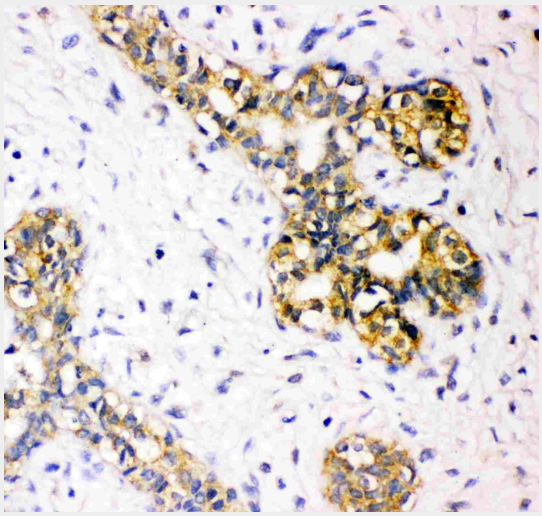
Anti-Tuberin Picoband antibody, ABO11823-4.jpgIHC(P): Mouse Brain Tissue



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.