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Anti-Tuberin Picoband Antibody

Catalog # ABO11823

Product Information

Application	WB, IHC-P
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.

Additional Information

Gene ID	7249
Other Names	Tuberin, Tuberous sclerosis 2 protein, TSC2, TSC4
Calculated MW	200608
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Mouse, Rat, By Heat Western blot, 0.1-0.5 □g/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.
Source	Eukaryota
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.

Protein Information

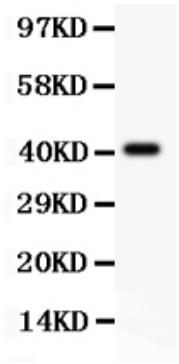
Name	TSC2 {ECO:0000303|PubMed:7558029, ECO:0000312|HGNC:HGNC:12363}
Function	Catalytic component of the TSC-TBC complex, a multiprotein complex that acts as a negative regulator of the canonical mTORC1 complex, an evolutionarily conserved central nutrient sensor that stimulates anabolic reactions and 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	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.

Background

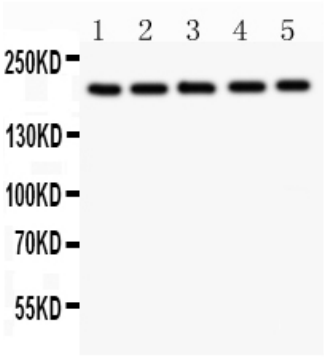
Tuberous sclerosis 2 protein, also known as TSC2 or Tuberin is a protein that is in humans. The chromosomal location of this gene is 16p13.3. Mutations in this gene lead to tuberous sclerosis complex. Its gene product is believed to be a tumor suppressor and is able to stimulate specific GTPases. The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

Images

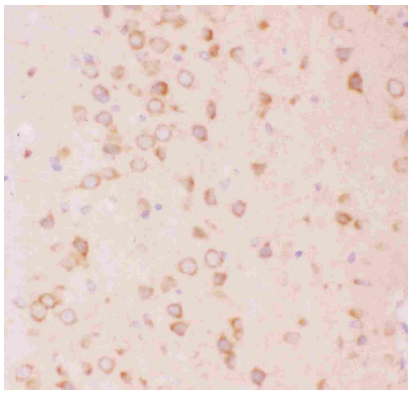
Anti-Tuberin Picoband antibody, ABO11823-1.jpgAll lanes:



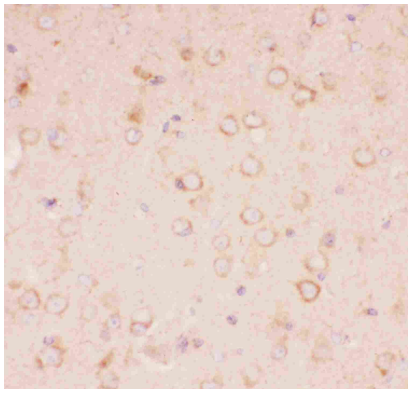
Anti Tuberin (ABO11823) at 0.5ug/mlWB: Recombinant Human Tuberin Protein 0.5ngPredicted bind size: 41KDObserved bind size: 41KD



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

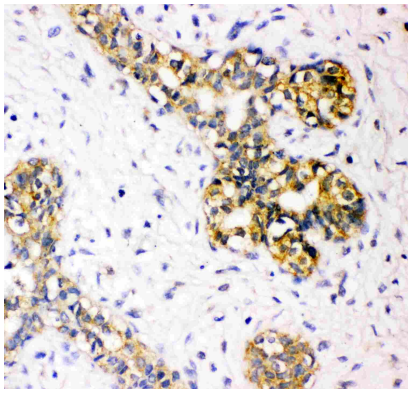


Anti-Tuberin Picoband antibody, ABO11823-3.jpgIHC(P): Rat Brain Tissue



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

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



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.