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Anti-Hamartin Antibody

Catalog # ABO11319

Product Information

Application	WB, IHC-P
Primary Accession	Q92574
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Hamartin(TSC1) 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	7248
Other Names	Hamartin, Tuberous sclerosis 1 protein, TSC1, KIAA0243, TSC
Calculated MW	129767
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, Rat, Mouse
Subcellular Localization	Cytoplasm . Membrane ; Peripheral membrane protein . At steady state found in association with membranes.
Tissue Specificity	Highly expressed in skeletal muscle, followed by heart, brain, placenta, pancreas, lung, liver and kidney. Also expressed in embryonic kidney cells.
Source	Eukaryota
Protein Name	Hamartin
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Hamartin(1150-1164aa QLHIMDYNETHHEHS), identical to the related rat sequence, and different from the related mouse sequence by one amino acid.
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.

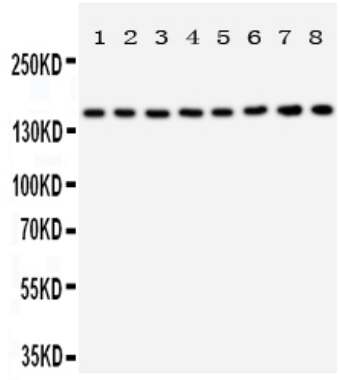
Protein Information

Name	TSC1 {ECO:0000303|PubMed:9242607, ECO:0000312|HGNC:HGNC:12362}
Function	Non-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:15340059, PubMed:24529379, PubMed:28215400). The TSC-TBC complex acts as a GTPase-activating protein (GAP) for the small GTPase RHEB, a direct activator of the protein kinase activity of mTORC1 (PubMed:12906785, PubMed:15340059, PubMed:24529379). 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:12271141, PubMed:24529379, PubMed:28215400, PubMed:33215753). The TSC-TBC complex is inactivated in response to nutrients, relieving inhibition of mTORC1 (PubMed:12172553, PubMed:24529379). Within the TSC-TBC complex, TSC1 stabilizes TSC2 and prevents TSC2 self-aggregation (PubMed:10585443, PubMed:28215400). Acts as a tumor suppressor (PubMed:9242607). Involved in microtubule- mediated protein transport via its ability to regulate mTORC1 signaling (By similarity). Also acts as a co-chaperone for HSP90AA1 facilitating HSP90AA1 chaperoning of protein clients such as kinases, TSC2 and glucocorticoid receptor NR3C1 (PubMed:29127155). Increases ATP binding to HSP90AA1 and inhibits HSP90AA1 ATPase activity (PubMed:29127155). Competes with the activating co-chaperone AHSA1 for binding to HSP90AA1, thereby providing a reciprocal regulatory mechanism for chaperoning of client proteins (PubMed:29127155). Recruits TSC2 to HSP90AA1 and stabilizes TSC2 by preventing the interaction between TSC2 and ubiquitin ligase HERC1 (PubMed:16464865, PubMed:29127155).
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 nutrients, the complex dissociates from lysosomal membranes and relocalizes to the cytosol (PubMed:24529379).
Tissue Location	Highly expressed in skeletal muscle, followed by heart, brain, placenta, pancreas, lung, liver and kidney (PubMed:9242607). Also expressed in embryonic kidney cells (PubMed:9242607).

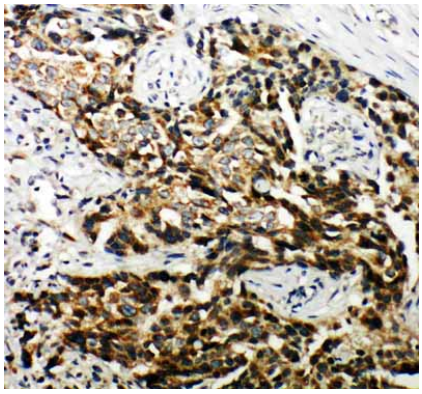
Background

TSC1(Tuberous Sclerosis 1), also called HAMARTIN or TSC, is a human protein and gene. As part of a comprehensive strategy to identify the gene mutant in tuberous sclerosis-1, van Slegtenhorst et al.(1997) developed an overlapping contig of clones from the 1.4-Mb TSC1 region on chromosome 9. Benvenuto et al.(2000) showed that overexpression of the TSC1 gene in rat fibroblasts inhibits growth and causes changes in cell morphology. Van Slegtenhorst et al.(1998) showed that hamartin and tuberin associate physically in vivo, however, and that the interaction is mediated by predicted coiled-coil domains.

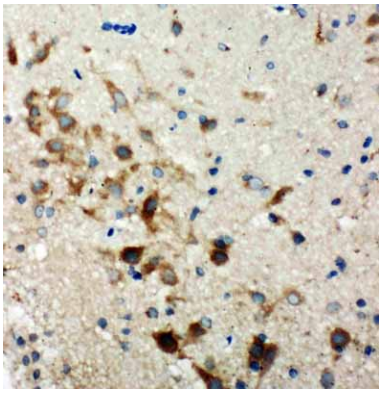
Images



Anti-Hamartin antibody, ABO11319, Western blottingAll lanes: Anti Hamartin (ABO11319) at 0.5ug/mlLane 1: Rat Skeletal Muscle Tissue Lysate at 50ugLane 2: Rat Heart Tissue Lysate at 50ugLane 3: Rat Brain Tissue Lysate at 50ugLane 4: Rat Lung Tissue Lysate at 50ugLane 5: 293T Whole Cell Lysate at 40ugLane 6: HELA Whole Cell Lysate at 40ugLane 7: HT1080 Whole Cell Lysate at 40ugLane 8: SMMC Whole Cell Lysate at 40ugPredicted bind size: 130KDObserved bind size: 160KD



Anti-Hamartin antibody, ABO11319, IHC(P)IHC(P): Human Mammary Cancer Tissue



Anti-Hamartin antibody, ABO11319, IHC(P)IHC(P): Rat Brain Tissue

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