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Anti-Hamartin Antibody
Catalog # ABO11319

Specification

Anti-Hamartin Antibody - 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.

Anti-Hamartin Antibody - Additional Information

Gene ID 7248

Other Names
Hamartin, Tuberous sclerosis 1 protein, TSC1, KIAA0243, TSC

Calculated MW
129767 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, 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.

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.**

Anti-Hamartin Antibody - 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).

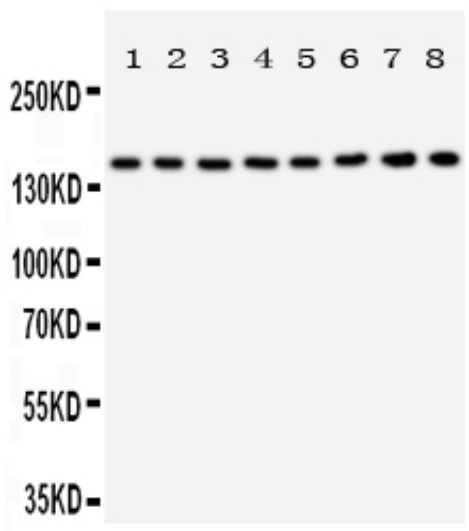
Tissue Location
Highly expressed in skeletal muscle, followed by heart, brain, placenta, pancreas, lung, liver and kidney (PubMed:9242607). Also expressed in embryonic kidney cells (PubMed:9242607).

Anti-Hamartin 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-Hamartin Antibody - 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

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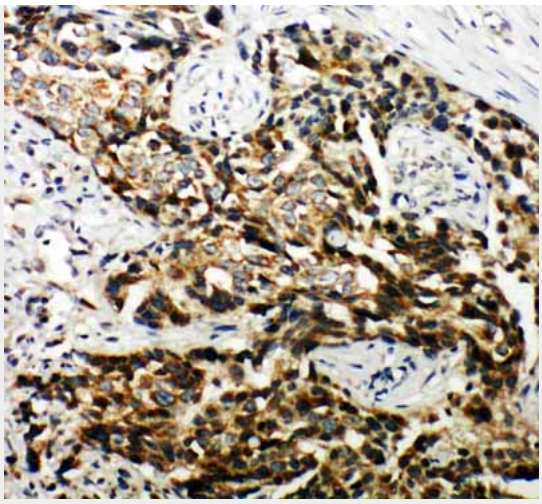
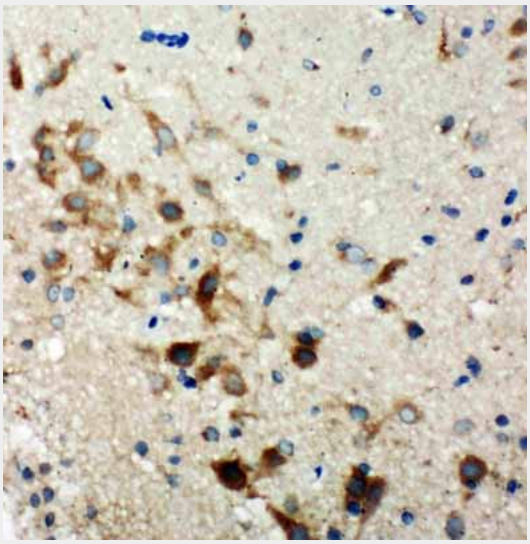


Anti-Hamartin antibody, ABO11319, IHC(P)IHC(P): Human Mammary Cancer Tissue



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

Anti-Hamartin Antibody - 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.