

## Anti-Hamartin Rabbit Monoclonal Antibody Catalog # ABO15757

### Specification

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#### Anti-Hamartin Rabbit Monoclonal Antibody - Product Information

Application	WB, IHC, IF, ICC, FC
Primary Accession	<a href="#">Q92574</a>
Host	Rabbit
Isotype	IgG
Reactivity	Human
Clonality	Monoclonal
Format	Liquid

#### Description

Anti-Hamartin Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, Flow Cytometry applications. This antibody reacts with Human.

#### Anti-Hamartin Rabbit Monoclonal Antibody - Additional Information

Gene ID 7248

#### Other Names

Hamartin, Tuberosus sclerosis 1 protein, TSC1 {ECO:0000303|PubMed:9242607, ECO:0000312|HGNC:HGNC:12362}

#### Calculated MW

150 kDa KDa

#### Application Details

WB 1:1000-1:5000<br>IHC 1:50-1:200<br>ICC/IF 1:50-1:200<br>FC 1:200

#### Contents

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

#### Immunogen

A synthesized peptide derived from human Hamartin

#### Purification

Affinity-chromatography

#### Storage

Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

#### Anti-Hamartin Rabbit Monoclonal 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:<a href="http://www.uniprot.org/citations/12172553" target="\_blank">12172553</a>, PubMed:<a href="http://www.uniprot.org/citations/12271141" target="\_blank">12271141</a>, PubMed:<a href="http://www.uniprot.org/citations/12906785" target="\_blank">12906785</a>, PubMed:<a href="http://www.uniprot.org/citations/15340059" target="\_blank">15340059</a>, PubMed:<a href="http://www.uniprot.org/citations/24529379" target="\_blank">24529379</a>, PubMed:<a href="http://www.uniprot.org/citations/28215400" target="\_blank">28215400</a>). 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:<a href="http://www.uniprot.org/citations/12906785" target="\_blank">12906785</a>, PubMed:<a href="http://www.uniprot.org/citations/15340059" target="\_blank">15340059</a>, PubMed:<a href="http://www.uniprot.org/citations/24529379" target="\_blank">24529379</a>). 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:<a href="http://www.uniprot.org/citations/12271141" target="\_blank">12271141</a>, PubMed:<a href="http://www.uniprot.org/citations/24529379" target="\_blank">24529379</a>, PubMed:<a href="http://www.uniprot.org/citations/28215400" target="\_blank">28215400</a>, PubMed:<a href="http://www.uniprot.org/citations/33215753" target="\_blank">33215753</a>). The TSC-TBC complex is inactivated in response to nutrients, relieving inhibition of mTORC1 (PubMed:<a href="http://www.uniprot.org/citations/12172553" target="\_blank">12172553</a>, PubMed:<a href="http://www.uniprot.org/citations/24529379" target="\_blank">24529379</a>). Within the TSC-TBC complex, TSC1 stabilizes TSC2 and prevents TSC2 self-aggregation (PubMed:<a href="http://www.uniprot.org/citations/10585443" target="\_blank">10585443</a>, PubMed:<a href="http://www.uniprot.org/citations/28215400" target="\_blank">28215400</a>). Acts as a tumor suppressor (PubMed:<a href="http://www.uniprot.org/citations/9242607" target="\_blank">9242607</a>). 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:<a href="http://www.uniprot.org/citations/29127155" target="\_blank">29127155</a>). Increases ATP binding to HSP90AA1 and inhibits HSP90AA1 ATPase activity (PubMed:<a href="http://www.uniprot.org/citations/29127155" target="\_blank">29127155</a>). Competes with the activating co-chaperone AHSA1 for binding to HSP90AA1, thereby providing a reciprocal regulatory mechanism for chaperoning of client proteins (PubMed:<a href="http://www.uniprot.org/citations/29127155" target="\_blank">29127155</a>). Recruits TSC2 to HSP90AA1 and stabilizes TSC2 by preventing the interaction between TSC2 and ubiquitin ligase HERC1 (PubMed:<a href="http://www.uniprot.org/citations/16464865" target="\_blank">16464865</a>, PubMed:<a href="http://www.uniprot.org/citations/29127155" target="\_blank">29127155</a>).

## 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 relocates to the cytosol (PubMed:24529379).

## Tissue Location

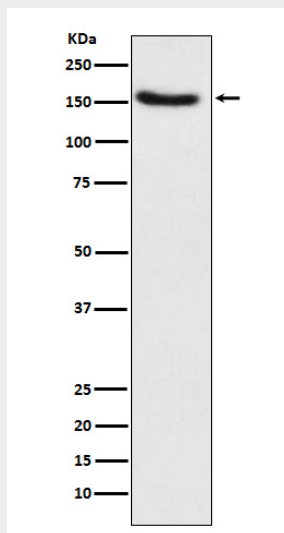
Highly expressed in skeletal muscle, followed by heart, brain, placenta, pancreas, lung, liver and kidney (PubMed:9242607). Also expressed in embryonic kidney cells (PubMed:9242607).

## Anti-Hamartin Rabbit Monoclonal 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-Hamartin Rabbit Monoclonal Antibody - Images



Western blot analysis of Hamartin expression in HeLa cell lysate.