

Goat Anti-Hamartin / TSC1 (isoform 1) Antibody
Peptide-affinity purified goat antibody
Catalog # AF1519a**Specification****Goat Anti-Hamartin / TSC1 (isoform 1) Antibody - Product Information**

Application	WB, IHC
Primary Accession	O92574
Other Accession	NP_000359 , 7248 , 64930 (mouse)
Reactivity	Human
Predicted	Mouse, Rat, Dog
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	129767

Goat Anti-Hamartin / TSC1 (isoform 1) Antibody - Additional Information**Gene ID** 7248**Other Names**

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

Format

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

Goat Anti-Hamartin / TSC1 (isoform 1) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-Hamartin / TSC1 (isoform 1) 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:12906785, PubMed:12271141)

target="_blank">12271141, PubMed:28215400, PubMed:15340059, PubMed:24529379). 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). 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 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).

Goat Anti-Hamartin / TSC1 (isoform 1) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

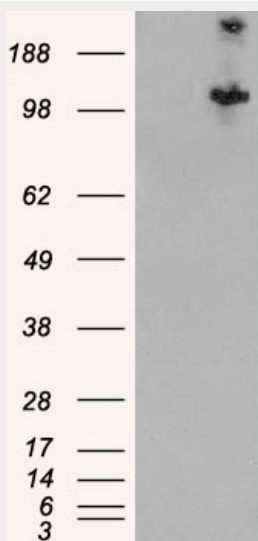
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)

- [Flow Cytometry](#)
- [Cell Culture](#)

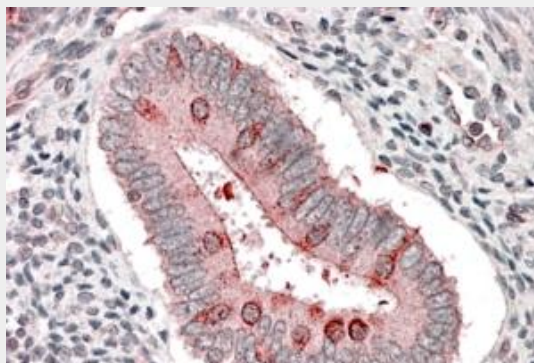
Goat Anti-Hamartin / TSC1 (isoform 1) Antibody - Images



AF1519a (0.1 µg/ml) staining of Human Brain lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.



HEK293 overexpressing Human TSC1 (RC213332) and probed with AF1519a (mock transfection in first lane), tested by Origene.



AF1519a (3.8 µg/ml) staining of paraffin embedded Human Uterus. Steamed antigen retrieval

with citrate buffer pH 6, AP-staining.

Goat Anti-Hamartin / TSC1 (isoform 1) Antibody - Background

This gene encodes a growth inhibitory protein thought to play a role in the stabilization of tuberin. Mutations in this gene have been associated with tuberous sclerosis. Alternative splicing results in multiple transcript variants.

Goat Anti-Hamartin / TSC1 (isoform 1) Antibody - References

Polymorphic variants in TSC1 and TSC2 and their association with breast cancer phenotypes. Mehta MS, et al. Breast Cancer Res Treat, 2010 Jul 25. PMID 20658316.
A Large-scale genetic association study of esophageal adenocarcinoma risk. Liu CY, et al. Carcinogenesis, 2010 Jul. PMID 20453000.
Tandem affinity purification and identification of the human TSC1 protein complex. Guo L, et al. Acta Biochim Biophys Sin (Shanghai), 2010 Apr. PMID 20383465.
FOXO3a regulates glycolysis via transcriptional control of tumor suppressor TSC1. Khatri S, et al. J Biol Chem, 2010 May 21. PMID 20371605.
Expanding the tuberous sclerosis phenotype: mild disease caused by a TSC1 splicing mutation. Blyth M, et al. J Neurol Neurosurg Psychiatry, 2010 Mar. PMID 20185476.