

KD-Validated Anti-Tuberin Rabbit Monoclonal Antibody
Rabbit monoclonal antibody
Catalog # AGI2338**Specification****KD-Validated Anti-Tuberin Rabbit Monoclonal Antibody - Product Information**

Application	WB, FC
Primary Accession	P49815
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Calculated MW	Predicted , 201 kDa ; Observed , 201 kDa
Gene Name	KDa
Aliases	TSC2
	Tuberin; PPP1R160; TSC4; LAM; Protein Phosphatase 1, Regulatory Subunit 160; Tuberous Sclerosis 2 Protein; Tuberous Sclerosis 2
Immunogen	Recombinant protein of human Tuberin

KD-Validated Anti-Tuberin Rabbit Monoclonal Antibody - Additional Information

Gene ID	7249
Other Names	
Tuberin, Tuberous sclerosis 2 protein, TSC2 {ECO:0000303 PubMed:7558029, ECO:0000312 HGNC:HGNC:12363}	

KD-Validated Anti-Tuberin Rabbit Monoclonal Antibody - 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](http://www.uniprot.org/citations/12172553) target="_blank">12172553, PubMed: [12271141](http://www.uniprot.org/citations/12271141) target="_blank">12271141, PubMed: [12842888](http://www.uniprot.org/citations/12842888) target="_blank">12842888, PubMed: [12906785](http://www.uniprot.org/citations/12906785) target="_blank">12906785, PubMed: [15340059](http://www.uniprot.org/citations/15340059) target="_blank">15340059, PubMed: [22819219](http://www.uniprot.org/citations/22819219) target="_blank">22819219, PubMed: [24529379](http://www.uniprot.org/citations/24529379) target="_blank">24529379, PubMed: [28215400](http://www.uniprot.org/citations/28215400) target="_blank">28215400, PubMed: [33436626](http://www.uniprot.org/citations/33436626) target="_blank">33436626, PubMed: [35772404](http://www.uniprot.org/citations/35772404) target="_blank">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](http://www.uniprot.org/citations/12172553) target="_blank">12172553).

target="_blank">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 relocates to the cytosol (PubMed:24529379)

Tissue Location

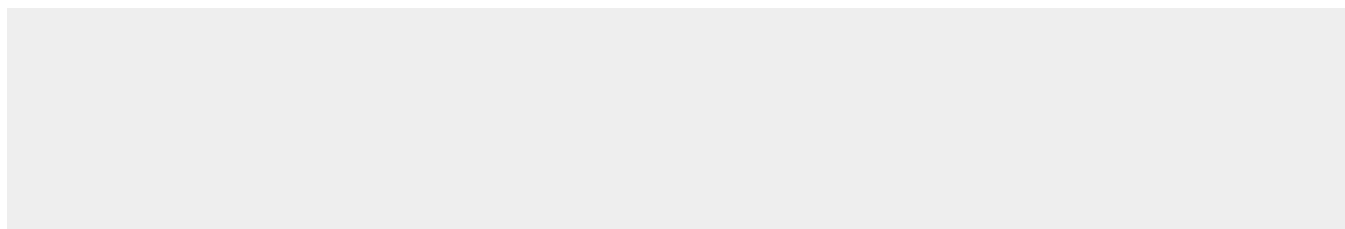
Liver, brain, heart, lymphocytes, fibroblasts, biliary epithelium, pancreas, skeletal muscle, kidney, lung and placenta.

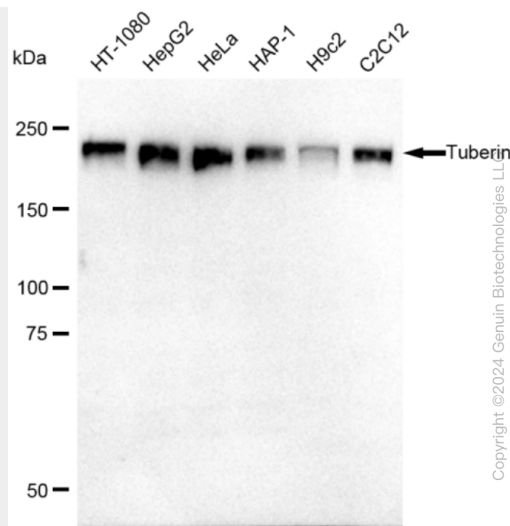
KD-Validated Anti-Tuberin Rabbit Monoclonal Antibody - Protocols

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

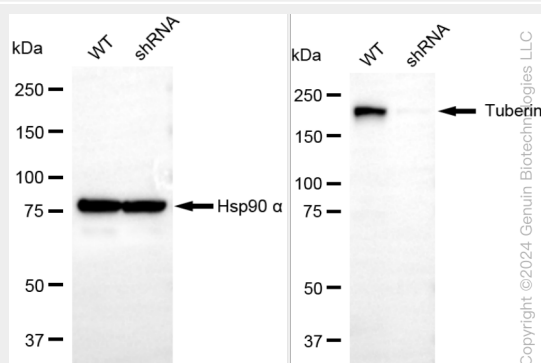
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

KD-Validated Anti-Tuberin Rabbit Monoclonal Antibody - Images

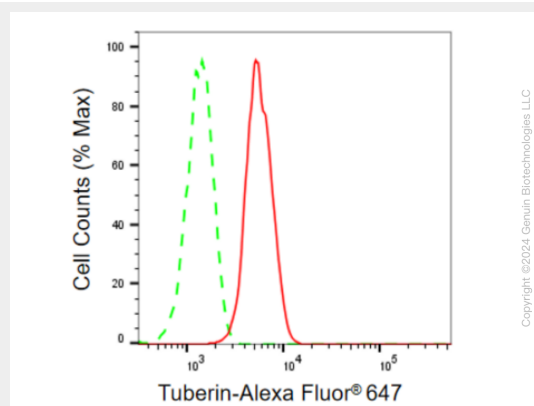




Western blotting analysis using anti-Tuberin antibody (Cat#AGI2338). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-Tuberin antibody (Cat#AGI2338, 1:2,500) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-Tuberin antibody (Cat#AGI2338). Tuberin expression in wild type (WT) and Tuberin shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. β-Tubulin serves as a loading control. The blot was incubated with anti-Tuberin antibody (Cat#AGI2338, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of Tuberin expression in HepG2 cells using Tuberin antibody (Cat#AGI2338, 1:2,000). Green, isotype control; Red, Tuberin.