

#3612 Store at -20C

Tuberin/TSC2 Antibody



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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H M R Mk	Endogenous	200	Rabbit	#P49815	7249

Product Usage Information	Application Western Blotting	Dilution 1:1000
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	Tuberin/TSC2 Antibody detects endogenous levels of total tuberin protein independent of phosphorylation. This antibody cross-reacts with some other proteins.	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the carboxy-terminal residues of human tuberin. Antibodies are purified by protein A and peptide affinity chromatography.	
Background	Tuberin is a product of the TSC2 tumor suppressor gene and an important regulator of cell proliferation and tumor development (1). Mutations in either <i>TSC2</i> or the related <i>TSC1</i> (hamartin) gene cause tuberous sclerosis complex (TSC), an autosomal dominant disorder characterized by development of multiple, widespread non-malignant tumors (2). Tuberin is directly phosphorylated at Thr1462 by Akt/PKB (3). Phosphorylation at Thr1462 and Tyr1571 regulates tuberin-hamartin complexes and tuberin activity (3-5). In addition, tuberin inhibits the mammalian target of rapamycin (mTOR), which promotes inhibition of p70 S6 kinase, activation of eukaryotic initiation factor 4E binding protein 1 (4E-BP1, an inhibitor of translation initiation), and eventual inhibition of translation (3,6,7).	
Background References	<ol style="list-style-type: none"> 1. Soucek, T. et al. (1998) <i>Proc Natl Acad Sci U S A</i> 95, 15653-8. 2. Sparagana, S.P. and Roach, E.S. (2000) <i>Curr Opin Neurol</i> 13, 115-9. 3. Manning, B.D. et al. (2002) <i>Mol Cell</i> 10, 151-62. 4. Aicher, L.D. et al. (2001) <i>J Biol Chem</i> 276, 21017-21. 5. Dan, H.C. et al. (2002) <i>J Biol Chem</i> 277, 35364-70. 6. Goncharova, E.A. et al. (2002) <i>J Biol Chem</i> 277, 30958-67. 7. Inoki, K. et al. (2002) <i>Nat Cell Biol</i> 4, 648-57. 	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse GP: Guinea Pig Rab: rabbit All: all species expected
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