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Store at -20C
#3612

Tuberin/TSC2 Antibody

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

Applications: W	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 200	Source/Isotype: Rabbit	UniProt ID: #P49815	Entrez-Gene Id: 7249
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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 *TSC2* or the related *TSC1* (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

1. Soucek, T. et al. (1998) *Proc Natl Acad Sci U S A* 95, 15653-8.
2. Sparagana, S.P. and Roach, E.S. (2000) *Curr Opin Neurol* 13, 115-9.
3. Manning, B.D. et al. (2002) *Mol Cell* 10, 151-62.
4. Aicher, L.D. et al. (2001) *J Biol Chem* 276, 21017-21.
5. Dan, H.C. et al. (2002) *J Biol Chem* 277, 35364-70.
6. Goncharova, E.A. et al. (2002) *J Biol Chem* 277, 30958-67.
7. Inoki, K. et al. (2002) *Nat Cell Biol* 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

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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