

#3990 Store at -20°C

Tuberin/TSC2 (D57A9) Rabbit mAb



✓ 100 µl
(10 western blots)

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Entrez-Gene ID #7249
Swiss-Prot Acc. #P49815

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP Endogenous	H, M, R	200 kDa	Rabbit IgG**

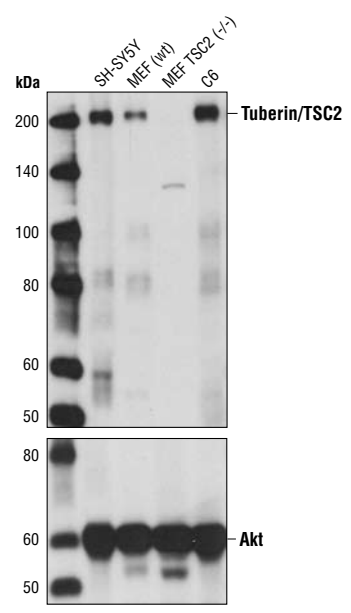
Background: Tuberin is a product of the TSC2 tumor suppressor gene and an important regulator of cell proliferation and tumor development (1). Mutations in either *TSC2* or the related *TSC1* (hamartin) gene cause tuberous sclerosis complex (TSC), an autosomal dominant disorder characterized by development 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).

Specificity/Sensitivity: Tuberin/TSC2 (D57A9) Rabbit mAb detects endogenous levels of total tuberin protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to carboxy-terminal residues of human tuberin.

Background References:

- (1) Soucek, T. et al. (1998) *Proc. Natl. Acad. Sci. USA* 95, 15653-15658.
- (2) Sparagana, S.P. and Roach, E.S. (2000) *Curr. Opin. Neurol.* 13, 115-119.
- (3) Manning, B. D. et al. (2002) *Mol. Cell* 10, 151-161.
- (4) Aicher, L. D. et al. (2001) *J. Biol. Chem.* 276, 21017-21021.
- (5) Dan, H. C. et al. (2002) *J. Biol. Chem.* 277, 35364-35370.
- (6) Goncharova, E.A. et al. (2002) *J. Biol. Chem.* 277, 30958-30967.
- (7) Inoki, K. et al. (2002) *Nat. Cell Biol.* 4, 648-657.



Western blot analysis of extracts from SH-SY5Y and C6 cells, and from wild-type (wt) and TSC2-deficient (-/-) mouse embryonic fibroblasts (MEF), using Tuberin/TSC2 (D57A9) Rabbit mAb (upper) and Akt (pan) (C67E7) Rabbit mAb #4691 (lower).

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:50

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey 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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.