

Hamartin/TSC1 (1B2) Mouse mAb

✓ 100 µl
(10 western blots)

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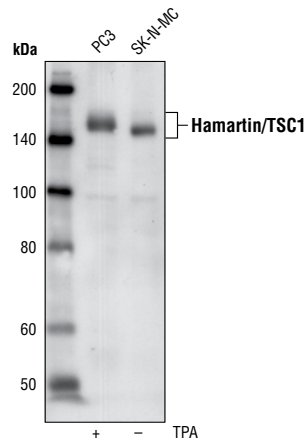
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W Endogenous	H, M, R	150-170	Mouse IgG1**

Background: Tuberous sclerosis complex (TSC) is an autosomal dominant disorder that causes symptoms including hamartomas in brain, kidney, heart, lung and skin (1). The tumor suppressor genes TSC1 and TSC2 encode hamartin and tuberin, respectively (2,3). Hamartin and tuberin form a functional complex and are involved in numerous cellular activities such as vesicular trafficking, regulation of the G1 phase of the cell cycle, steroid hormone regulation, Rho activation and anchoring neuronal intermediate filaments to the actin cytoskeleton (4-9). Cells lacking hamartin or tuberin display phosphorylation of S6 kinase and S6 resulting in negative regulation of S6 kinase. Furthermore, the combination of genetic, biochemical and cell-biological studies demonstrate that the tuberin: hamartin complex functions as a GTPase-activating protein for the Ras-related small G protein Rheb and thus inhibits targets of rapamycin including mTOR (10). Hamartin is phosphorylated by CDK1 (cdc2) at Thr417, Ser584 and Thr1047 in cells in G2/M phase of the cell cycle (11).

Specificity/Sensitivity: Hamartin/TSC1 (1B2) Mouse mAb detects endogenous levels of total hamartin protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a recombinant protein from the central region of human hamartin.



Western blot analysis of extracts from PC3 and SK-N-MC cells using Hamartin/TSC1 (1B2) Mouse mAb.

Entrez-Gene ID #7248
Swiss-Prot Acc. #Q92574

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-mouse secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western Blotting 1:1000

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

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

Background References:

- (1) Sparagana, S.P. and Roach, E.S. (2000) *Curr. Opin. Neurol.* 13, 115-119.
- (2) van Slegtenhorst, M. et al. (1997) *Science* 277, 805-808.
- (3) No authors listed. (1993) *Cell* 75, 1305-1315.
- (4) Plank, T.L. et al. (1998) *Cancer Res.* 58, 4766-4770.
- (5) Xiao, G. et al. (1997) *J. Biol. Chem.* 272, 6097-6100.
- (6) Tapon, N. et al. (2001) *Cell* 105, 345-355.
- (7) Henry, K.W. et al. (1998) *J. Biol. Chem.* 273, 20535-20539.
- (8) Lamb, R.F. et al. (2000) *Nat. Cell Biol.* 2, 281-287.
- (9) Haddad, L.A. et al. (2002) *J. Biol. Chem.* 277, 44180-44186.
- (10) Manning, B.D. and Cantley, L.C. (2003) *Trends Biochem Sci.* 28, 573-576.
- (11) Astrinidis, A. et al. (2003) *J. Biol. Chem.* 278, 51372-51379.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 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.