SANTA CRUZ BIOTECHNOLOGY, INC.

hamartin (H-300): sc-13013

BACKGROUND

Tuberous sclerosis complex (TSC) is an autosomal dominant genetic disorder characterized by mental retardation and the widespread development of distinctive tumors termed hamartomas. Two different genetic loci have been linked to TSC; one of these loci, the tuberous sclerosis-2 gene (TSC2), encodes a protein called tuberin and the other loci, tuberous sclerosis-1 gene (TSC1), encodes a protein called hamartin. Tuberin and hamartin interact with each other forming a cystoplasmic complex. Hamartin interacts with the ezrin-radixin-moesin (ERM) family of actin-binding proteins and inhibition of hamartin activity results in loss of cell adhesion. Hamartin is present in most adult tissues with strong expression in brain, heart, and kidney.

CHROMOSOMAL LOCATION

Genetic locus: TSC1 (human) mapping to 9q34.13; Tsc1 (mouse) mapping to 2 A3.

SOURCE

hamartin (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of hamartin of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

hamartin (H-300) is recommended for detection of hamartin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

hamartin (H-300) is also recommended for detection of hamartin in additional species, including equine and canine.

Suitable for use as control antibody for hamartin siRNA (h): sc-37437, hamartin siRNA (m): sc-37438, hamartin shRNA Plasmid (h): sc-37437-SH, hamartin shRNA Plasmid (m): sc-37438-SH, hamartin shRNA (h) Lentiviral Particles: sc-37437-V and hamartin shRNA (m) Lentiviral Particles: sc-37438-V.

Molecular Weight of hamaritin: 130 kDa.

Positive Controls: C2C12 whole cell lysate: sc-364188, RAT2 whole cell lysate: sc-364198 or MDA-MB-468 cell lysate: sc-2282.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

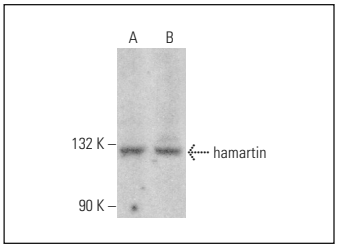
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



hamartin (H-300): sc-13013. Western blot analysis of hamartin expression in C2C12 (**A**) and RAT2 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wu, J., et al. 2004. Hamartin and tuberin immunohistochemical expression in cutaneous fibroepithelial polyps. J. Cutan. Pathol. 31: 383-387.
2. Jiang, W.G., et al. 2005. Tuberin and hamartin are aberrantly expressed and linked to clinical outcomes in human breast cancer: the role of promoter methylation of TSC genes. Eur. J. Cancer 41: 1628-1636.
3. Cai, S.L., et al. 2006. Activity of TSC2 is inhibited by AKT-mediated phosphorylation and membrane partitioning. J. Cell Biol. 173: 279-289.
4. Floricel, F., et al. 2007. Antisense suppression of TSC1 gene product, hamartin, enhances neurite outgrowth in NGF-treated PC12h cells. Brain Dev. 29: 502-509.
5. Jozwiak, J., et al. 2007. Brain tumor formation in tuberous sclerosis depends on Erk activation. Neuromolecular Med. 9: 117-127.
6. Wlodarski, P.K., et al. 2008. Tuberin-heterozygous cell line TSC2ang1 as a model for tuberous sclerosis-associated skin lesions. Int. J. Mol. Med. 21: 245-250.
7. Amin, R.M., et al. 2008. Role of the PI3K/Akt, mTOR, and STK11/LKB1 pathways in the tumorigenesis of sclerosing hemangioma of the lung. Pathol. Int. 58: 38-44.
8. Gao, D., et al. 2009. Phosphorylation by Akt1 promotes cytoplasmic localization of Skp2 and impairs APCCdh1-mediated Skp2 destruction. Nat. Cell Biol. 11: 397-408.
9. Inoue, H., et al. 2009. Hamartin-Hsp70 interaction is necessary for Akt-dependent tuberin phosphorylation during heat shock. Biosci. Biotechnol. Biochem. 73: 2488-2493.