

# hamartin (C-8): sc-377386

## 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 cytoplasmic 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 (C-8) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of hamartin of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

hamartin (C-8) is available conjugated to agarose (sc-377386 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377386 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377386 PE), fluorescein (sc-377386 FITC), Alexa Fluor<sup>®</sup> 488 (sc-377386 AF488), Alexa Fluor<sup>®</sup> 546 (sc-377386 AF546), Alexa Fluor<sup>®</sup> 594 (sc-377386 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-377386 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-377386 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-377386 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

hamartin (C-8) is recommended for detection of hamartin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for hamartin siRNA (h): sc-37437, hamartin siRNA (m): sc-37438, hamartin siRNA (r): sc-270022, hamartin shRNA Plasmid (h): sc-37437-SH, hamartin shRNA Plasmid (m): sc-37438-SH, hamartin shRNA Plasmid (r): sc-270022-SH, hamartin shRNA (h) Lentiviral Particles: sc-37437-V, hamartin shRNA (m) Lentiviral Particles: sc-37438-V and hamartin shRNA (r) Lentiviral Particles: sc-270022-V.

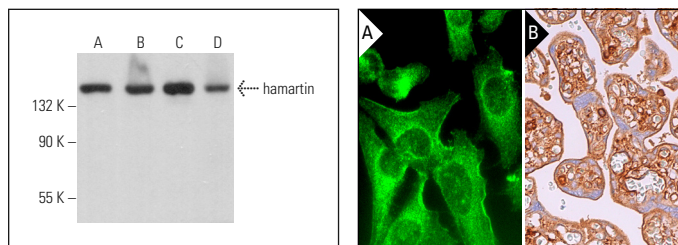
Molecular Weight of hamartin: 130 kDa.

Positive Controls: SJRH30 cell lysate: sc-2287, IMR-32 cell lysate: sc-2409 or HeLa whole cell lysate: sc-2200.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



hamartin (C-8): sc-377386. Western blot analysis of hamartin expression in SJRH30 (A), IMR-32 (B), HeLa (C) and WI-38 (D) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

hamartin (C-8): sc-377386. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic and membrane staining of trophoblastic cells and endothelial cells (B).

## SELECT PRODUCT CITATIONS

- Qu, Z. and D'Mello, S.R. 2018. Proteomic analysis identifies NPTX1 and HIP1R as potential targets of histone deacetylase-3-mediated neurodegeneration. *Exp. Biol. Med.* 243: 627-638.
- Bonucci, M., et al. 2020. mTOR and S6K1 drive polycystic kidney by the control of Afadin-dependent oriented cell division. *Nat. Commun.* 11: 3200.
- Shiomi, E., et al. 2021. Relationship between miR-155 expression and clear cell papillary renal cell carcinoma in the dialyzed kidney. *IJU Case Rep.* 4: 127-131.
- Hsieh, Y.L., et al. 2021. Chondrocyte Tsc1 controls cranial base bone development by restraining the premature differentiation of synchondroses. *Bone* 153: 116142.

## STORAGE

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

## RESEARCH USE

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