

tuberin (B-5): sc-271314

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: TSC2 (human) mapping to 16p13.3.

SOURCE

tuberin (B-5) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of tuberin of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

tuberin (B-5) is available conjugated to agarose (sc-271314 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271314 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271314 PE), fluorescein (sc-271314 FITC), Alexa Fluor[®] 488 (sc-271314 AF488), Alexa Fluor[®] 546 (sc-271314 AF546), Alexa Fluor[®] 594 (sc-271314 AF594) or Alexa Fluor[®] 647 (sc-271314 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271314 AF680) or Alexa Fluor[®] 790 (sc-271314 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

tuberin (B-5) is recommended for detection of tuberin of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for tuberin siRNA (h): sc-36762, tuberin shRNA Plasmid (h): sc-36762-SH and tuberin shRNA (h) Lentiviral Particles: sc-36762-V.

Molecular Weight of tuberin: 200 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, A549 cell lysate: sc-2413 or HeLa whole cell lysate: sc-2200.

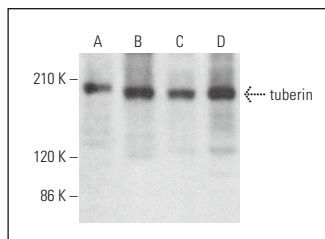
STORAGE

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

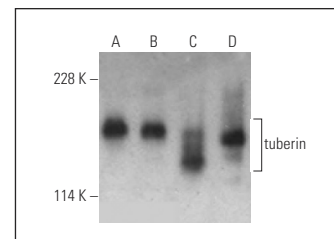
RESEARCH USE

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

DATA



tuberin (B-5): sc-271314. Western blot analysis of tuberin expression in Jurkat (A), U266 (B), A549 (C) and AN3 CA (D) whole cell lysates.



tuberin (B-5) HRP: sc-271314 HRP. Direct western blot analysis of tuberin expression in AN3 CA (A), HeLa (B), Jurkat (C) and U-87 MG (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Cheng, Y., et al. 2011. eEF-2 kinase dictates crosstalk between autophagy and apoptosis induced by Akt inhibition, thereby modulating cytotoxicity of novel Akt inhibitor MK-2206. *Cancer Res.* 71: 2654-2663.
- Zuzow, N., et al. 2018. Mapping the mammalian ribosome quality control complex interactome using proximity labeling approaches. *Mol. Biol. Cell* 29: 1258-1269.
- Liu, M., et al. 2018. ATR/Chk1 signaling induces autophagy through sumoylated RhoB-mediated lysosomal translocation of TSC2 after DNA damage. *Nat. Commun.* 9: 4139.
- Zhang, Z., et al. 2019. TLR4 counteracts BVRA signaling in human leukocytes via differential regulation of AMPK, mTORC1 and mTORC2. *Sci. Rep.* 9: 7020.
- Mrozek, E.M., et al. 2021. Evaluation of HSP 90 and mTOR inhibitors as potential drugs for the treatment of TSC1/TSC2 deficient cancer. *PLoS ONE* 16: e0248380.
- Yuskaitis, C.J., et al. 2022. DEPDC5-dependent mTORC1 signaling mechanisms are critical for the anti-seizure effects of acute fasting. *Cell Rep.* 40: 111278.
- Huang, Q.J., et al. 2022. Ras inhibitor farnesylthiosalicylic acid conjugated with IR783 dye exhibits improved tumor-targeting and altered anti-breast cancer mechanisms in mice. *Acta Pharmacol. Sin.* 43: 1843-1856.
- Castro, I., et al. 2023. Establishing and characterizing a novel doxorubicin-resistant acute myeloid leukaemia cell line. *J. Chemother.* 35: 307-321.
- Raymonda, M.H., et al. 2024. Cytomegalovirus-induced inactivation of TSC2 disrupts the coupling of fatty acid biosynthesis to glucose availability resulting in a vulnerability to glucose starvation. *mBio* 15: e0303123.

PROTOCOLS

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