SANTA CRUZ BIOTECHNOLOGY, INC.

α1a Tubulin (7-RY28): sc-134237

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Tubulin is a major cytoskeleton component that has five distinct forms, designated α, β, γ, δ and ε Tubulin. α and β Tubulins form heterodimers which multimerize to form a microtubule filament. Multiple β Tubulin isoforms (β1, β2, β3, β4, β5, β6 and β8) have been characterized and are expressed in mammalian tissues. β1 and β4 are present throughout the cytosol, β2 is present in the nuclei and nucleoplasm, and β3 is a neuron-specific cytoskeletal protein. γ Tubulin forms the gammasome, which is required for nucleating microtubule filaments at the centrosome. Both δ Tubulin and ε Tubulin are associated with the centrosome. δ Tubulin is a homolog of the *Chlamydomonas* δ Tubulin Uni3 and is found in association with the centrioles, whereas ε Tubulin localizes to the pericentriolar material. ε Tubulin exhibits a cell-cycle-specific pattern of localization, first associating with only the older of the centrosomes in a newly duplicated pair and later associating with both centrosomes.

CHROMOSOMAL LOCATION

Genetic locus: TUBA1A (human) mapping to 12q13.12; Tuba1a (mouse) mapping to 15 F1.

SOURCE

α1a Tubulin (7-RY28) is a mouse monoclonal antibody raised against amino acids 352-451 of α1a Tubulin protein of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

α1a Tubulin (7-RY28) is recommended for detection of α1a Tubulin and α Tubulin 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for α Tubulin siRNA (h): sc-29188, α Tubulin siRNA (m): sc-29189, α Tubulin shRNA Plasmid (h): sc-29188-SH, α Tubulin shRNA Plasmid (m): sc-29189-SH, α Tubulin shRNA (h) Lentiviral Particles: sc-29188-V and α Tubulin shRNA (m) Lentiviral Particles: sc-29189-V.

Molecular Weight of α1a Tubulin: 50 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Ramos cell lysate: sc-2216 or HeLa whole cell lysate: sc-2200.

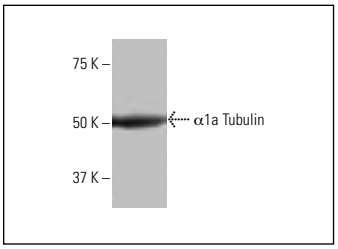
RECOMMENDED SUPPORT REAGENTS

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™ Molecular Weight Standards: sc-2035, UltraCruz® 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).

STORAGE

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

DATA



α1a Tubulin (7-RY28): sc-134237. Western blot analysis of α1a Tubulin expression in Hep G2 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Xiong, S., et al. 2017. Activation of transient receptor potential melastatin subtype 8 attenuates cold-induced hypertension through ameliorating vascular mitochondrial dysfunction. J. Am. Heart Assoc. 6: e005495.
2. Jin, M., et al. 2018. Anti-neuroinflammatory effect of curcumin on Pam3CSK4-stimulated microglial cells. Int. J. Mol. Med. 41: 521-530.
3. Gao, Q., et al. 2019. Integrated proteogenomic characterization of HBV-related hepatocellular carcinoma. Cell 179: 561-577.e22.
4. Wang, H., et al. 2019. Effects of histone deacetylase inhibitors on ATP-binding cassette transporters in lung cancer A549 and colorectal cancer HCT116 cells. Oncol. Lett. 18: 63-71.
5. Huang, C.C., et al. 2019. Dietary delphinidin inhibits human colorectal cancer metastasis associating with upregulation of miR-204-3p and suppression of the integrin/FAK axis. Sci. Rep. 9: 18954.
6. Gao, Q., et al. 2019. Integrated proteogenomic characterization of HBV-related hepatocellular carcinoma. Cell 179: 1240.
7. Raymundi, A.M., et al. 2020. A time-dependent contribution of hippocampal CB1, CB2, and PPARγ receptors to cannabidiol-induced disruption of fear memory consolidation. Br. J. Pharmacol. 177: 945-957.
8. Shi, B., et al. 2020. Effect of sodium butyrate on ABC transporters in lung cancer A549 and colorectal cancer HCT116 cells. Oncol. Lett. 20: 148.
9. Yu, S., et al. 2020. Pyrrolidine dithiocarbamate facilitates arsenic trioxide against pancreatic cancer via perturbing ubiquitin-proteasome pathway. Cancer Manag. Res. 12: 13149-13159.
10. Wu, Y., et al. 2020. Chronic resistance exercise improves functioning and reduces Toll-like receptor signaling in elderly patients with postoperative deconditioning. J. Manipulative Physiol. Ther. 43: 371-383.
11. Hausrat, T.J., et al. 2021 . α and β Tubulin isotypes are differentially expressed during brain development. Dev. Neurobiol. 81: 333-350.

RESEARCH USE

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