SANTA CRUZ BIOTECHNOLOGY, INC.

Pan β Tubulin (C-10): sc-398937

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.

SOURCE

Pan β Tubulin (C-10) is a mouse monoclonal antibody raised against amino acids 209-305 mapping within an internal region of β4 Tubulin of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Pan β Tubulin (C-10) is available conjugated to agarose (sc-398937 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398937 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398937 PE), fluorescein (sc-398937 FITC), Alexa Fluor® 488 (sc-398937 AF488), Alexa Fluor® 546 (sc-398937 AF546), Alexa Fluor® 594 (sc-398937 AF594) or Alexa Fluor® 647 (sc-398937 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398937 AF680) or Alexa Fluor® 790 (sc-398937 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

APPLICATIONS

Pan β Tubulin (C-10) is recommended for detection of β1, β2A, β2B, β2C, β3, β4, β5, β6 and β8 Tubulin 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).

Molecular Weight of Pan β Tubulin: 50 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, ECV304 cell lysate: sc-2269 or Hep G2 cell lysate: sc-2227.

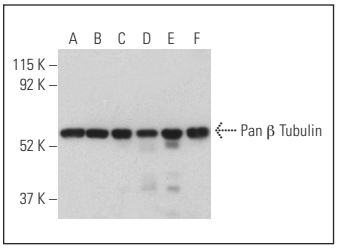
STORAGE

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

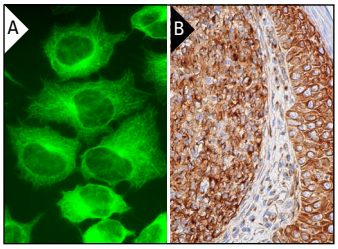
RESEARCH USE

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

DATA



Pan β Tubulin (C-10): sc-398937. Western blot analysis of Pan β Tubulin expression in ECV304 (**A**), Hep G2 (**B**), MDA-MB-231 (**C**), HUV-EC-C (**D**), U-87 MG (**E**) and HeLa (**F**) whole cell lysates. Detection reagent used: m-IgG_1 BP-HRP: sc-525408.



Pan β Tubulin (C-10): sc-398937. Immunofluorescence staining of formalin-fixed HeLa cells showing cytoskeletal localization. Detected with m-IgG Fc BP-FITC: sc-533651 (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic staining of cells in germinal center, non-germinal center and squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Paladino, D., et al. 2016. A novel nuclear Src and p300 signaling axis controls migratory and invasive behavior in pancreatic cancer. Oncotarget 7: 7253-7267.
2. Xue, L., et al. 2017. Duration of simulated microgravity affects the differentiation of mesenchymal stem cells. Mol. Med. Rep. 15: 3011-3018.
3. Borie, C., et al. 2018. Enediynes bearing polyfluoroaryl sulfoxide as new antiproliferative agents with dual targeting of microtubules and DNA. Eur. J. Med. Chem. 148: 306-313.
4. Langebäck, A., et al. 2019. CETSA-based target engagement of taxanes as biomarkers for efficacy and resistance. Sci. Rep. 9: 19384.
5. Guérit, D., et al. 2020. Primary myeloid cell proteomics and transcriptomics: importance of β Tubulin isotypes for osteoclast function. J. Cell Sci. 133: jcs239772.
6. Torrino, S., et al. 2021. Mechano-induced cell metabolism promotes microtubule glutamylation to force metastasis. Cell Metab. 33: 1342-1357.e10.
7. Burr, S.D., et al. 2022. Rap1a activity elevated the impact of endogenous AGEs in diabetic collagen to stimulate increased myofibroblast transition and oxidative stress. Int. J. Mol. Sci. 23: 4480.
8. Qrareya, A.N., et al. 2022. HIV-1 tat upregulates the receptor for advanced glycation end products and superoxide dismutase-2 in the heart of transgenic mice. Viruses 14: 2191.
9. Kennon, A.M. and Stewart, J.A. 2023. Paracrine signals in calcified conditioned media elicited differential responses in primary aortic vascular smooth muscle cells and in adventitial fibroblasts. Int. J. Mol. Sci. 24: 3599.

PROTOCOLS

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