SANTA CRUZ BIOTECHNOLOGY, INC.

α Tubulin (B-7): sc-5286

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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.

REFERENCES

1. Weisenberg, R. 1981. Invited review: the role of nucleotide triphosphate in Actin and Tubulin assembly and function. Cell Motil. 1: 485-497.
2. Burns, R.G. 1991. α-, β-, and γ-Tubulins: sequence comparisons and structural constraints. Cell Motil. Cytoskeleton 20: 181-189.
3. Zheng, Y., et al. 1991. γ Tubulin is present in *Drosophila melangaster* and *Homo sapiens* and is associated with the centrosome. Cell 65: 817-823.
4. Leask, A. and Stearns, T. 1998. Expression of amino- and carboxyl-terminal γ and β Tubulin mutants in cultured epithelial cells. J. Biol. Chem. 273: 2661-2668.

SOURCE

α Tubulin (B-7) is a mouse monoclonal antibody raised against amino acids 149-448 of α Tubulin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

α Tubulin (B-7) is available conjugated to agarose (sc-5286 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-5286 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-5286 PE), fluorescein (sc-5286 FITC), Alexa Fluor® 488 (sc-5286 AF488), Alexa Fluor® 546 (sc-5286 AF546), Alexa Fluor® 594 (sc-5286 AF594) or Alexa Fluor® 647 (sc-5286 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-5286 AF680) or Alexa Fluor® 790 (sc-5286 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, α Tubulin (B-7) is available conjugated to either TRITC (sc-5286 TRITC, 200 µg/ml) or Alexa Fluor® 405 (sc-5286 AF405, 200 µg/ml), 100 tests in 2 ml, for IF, IHC(P) and FCM.

RESEARCH USE

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

APPLICATIONS

α Tubulin (B-7) is recommended for detection of 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)], 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

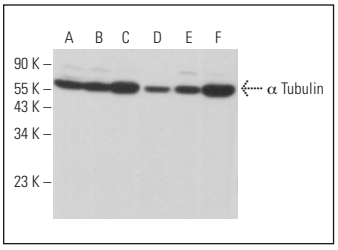
α Tubulin (B-7) is also recommended for detection of α Tubulin in additional species, including canine, bovine and porcine.

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.

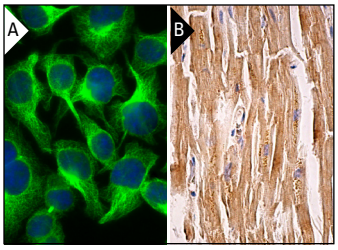
Molecular Weight of α Tubulin: 55 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, A-10 cell lysate: sc-3806 or PC-12 cell lysate: sc-2250.

DATA



α Tubulin (B-7): sc-5286. Western blot analysis of α Tubulin expression in K-562 (**A**), HEL 92.1.7 (**B**), RAW 264.7 (**C**), C2C12 (**D**), PC-12 (**E**) and A-10 (**F**) whole cell lysates.



α Tubulin (B-7): sc-5286. Immunofluorescence staining of formalin-fixed HeLa cells showing cytoplasmic localization. Note DAPI nuclear counterstain from UltraCruz® Hard-set Mounting Medium: sc-359850 (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (**B**).

SELECT PRODUCT CITATIONS

1. Golub, T., et al. 2002. The Ewing's sarcoma oncoprotein EWS/Fli induces a p53-dependent growth arrest in primary human fibroblasts. Cancer Cell 1: 393-401.
2. Fan, M., et al. 2022. Contrasting functions of the epithelial-stromal interaction 1 gene, in human oral and lung squamous cell cancers. Oncol. Rep. 47: 5.
3. Lui, W.Y., et al. 2023. Suppression of cGAS- and RIG-I-mediated innate immune signaling by Epstein-Barr virus deubiquitinase BPLF1. PLoS Pathog. 19: e1011186.

STORAGE

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