

α Tubulin (B-7): sc-5286

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 (β 1, β 2, β 3, β 4, β 5, β 6 and β 8) have been characterized and are expressed in mammalian tissues. β 1 and β 4 are present throughout the cytosol, β 2 is present in the nuclei and nucleoplasm, and β 3 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

- Weisenberg, R. 1981. Invited review: the role of nucleotide triphosphate in Actin and Tubulin assembly and function. *Cell Motil.* 1: 485-497.
- Burns, R.G. 1991. α -, β -, and γ -Tubulins: sequence comparisons and structural constraints. *Cell Motil. Cytoskeleton* 20: 181-189.
- Zheng, Y., et al. 1991. γ Tubulin is present in *Drosophila melanogaster* and *Homo sapiens* and is associated with the centrosome. *Cell* 65: 817-823.

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 μ g 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 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-5286 HRP), 200 μ g/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 μ g/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 μ g/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 μ g/ml), PerCP (sc-5286 PerCP), PerCP-Cy5.5 (sc-5286 PCPC5) or Alexa Fluor[®] 405 (sc-5286 AF405), 100 tests in 2 ml, for IF, IHC(P) and FCM.

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STORAGE

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

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 μ g per 100-500 μ g 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 μ g per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

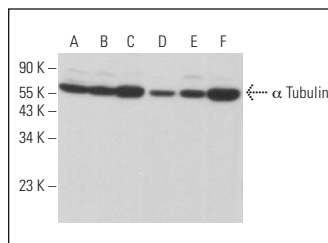
α Tubulin (B-7) is also recommended for detection of α Tubulin in additional species, including canine, bovine and porcine.

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.

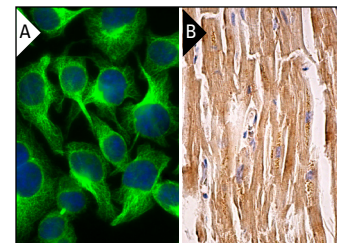
Molecular Weight of α Tubulin: 55 kDa.

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

- Golub, T., et al. 2002. The Ewing's sarcoma oncoprotein EWS/Flt1 induces a p53-dependent growth arrest in primary human fibroblasts. *Cancer Cell* 1: 393-401.
- Popova, J.S., et al. 2002. Phosphatidylinositol 4,5-bisphosphate modifies Tubulin participation in phospholipase C β 1 signaling. *J. Neurosci.* 22: 1668-1678.
- Tecalco-Cruz, A.C., et al. 2019. Interplay between interferon-stimulated gene 15/ISGylation and interferon γ signaling in breast cancer cells. *Cell. Signal.* 54: 91-101.

RESEARCH USE

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