

α 1b Tubulin (1H10): sc-134238

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

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- 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.
- Leask, A. and Stearns, T. 1998. Expression of amino- and carboxyl-terminal γ and α Tubulin mutants in cultured epithelial cells. *J. Biol. Chem.* 273: 2661-2668.
- Ludueno, R.F. 1998. Multiple forms of Tubulin: different gene products and covalent modifications. *Int. Rev. Cytol.* 178: 207-275.
- Walss, C., et al. 1999. Presence of the β 11 isotype of Tubulin in the nuclei of cultured mesangial cells from rat kidney. *Cell Motil. Cytoskeleton* 42: 274-284.
- Modig, C., et al. 1999. Identification of β 3 and β 4 Tubulin isoforms in cold-adapted microtubules from Atlantic cod (*Gadus morhua*): antibody mapping and cDNA sequencing. *Cell Motil. Cytoskeleton* 42: 315-330.

CHROMOSOMAL LOCATION

Genetic locus: TUBA1B (human) mapping to 12q13.12; Tuba1b (mouse) mapping to 15 F1.

SOURCE

α 1b Tubulin (1H10) is a mouse monoclonal antibody raised against recombinant α 1b Tubulin protein of human origin.

PRODUCT

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

RESEARCH USE

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

APPLICATIONS

α 1b Tubulin (1H10) is recommended for detection of α 1b 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) 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.

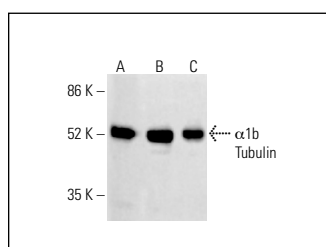
Molecular Weight of α 1b Tubulin: 50 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or HCT-116 whole cell lysate: sc-364175.

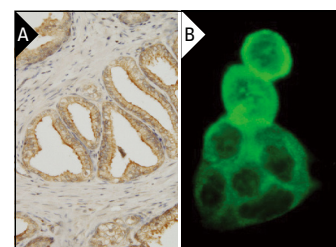
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



α 1b Tubulin (1H10): sc-134238. Western blot analysis of α 1b Tubulin expression in HeLa (A), K-562 (B) and HCT-116 (C) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



α 1b Tubulin (1H10): sc-134238. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human prostate tissue showing cytoplasmic and membrane localization (A). Immunofluorescence staining of methanol-fixed A-431 cells showing cytoplasmic localization (B).

STORAGE

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