

δ Tubulin (N-18): sc-10466

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. There are five β tubulin isoforms (β -I, β -II, β -III, β -IVa and β -IVb) that are expressed in mammalian tissues. β -I and β -IV are present throughout the cytosol, β -II is present in the nuclei and nucleoplasm, and β -III is a neuron-specific cytoskeletal protein. γ tubulin forms the gammaosome, 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 homologue 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.
- Zheng, Y., Jung, M.K., and Oakley, B.R. 1991. Gamma-Tubulin is present in *Drosophila melanogaster* and *Homo sapiens* and is associated with the centrosome. *Cell* 65: 817-823.
- Burns, R.G. 1991. Alpha-, beta-, and gamma-tubulins: sequence comparisons and structural constraints. *Cell Motil. Cytoskeleton* 20: 181-189.
- Leask, A. and Stearns, T. 1998. Expression of amino- and carboxyl-terminal gamma- and alpha-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.
- Modig, C., Olsson, P.E., Barasoain, I., de Ines, C., Andreu, J.M., Roach, M.C., Ludueno, R.F., and Wallin, M. 1999. Identification of betaIII- and betaIV-tubulin isotypes in cold-adapted microtubules from Atlantic cod (*Gadus morhua*): antibody mapping and cDNA sequencing. *Cell Motil. Cytoskeleton* 42: 315-330.
- Walss, C., Kreisberg, J.I., and Ludueno, R.F. 1999. Presence of the betaII isotype of Tubulin in the nuclei of cultured mesangial cells from rat kidney. *Cell Motil. Cytoskeleton* 42: 274-284.
- Woulfe, J. and Munoz, D. 2000. Tubulin immunoreactive neuronal intranuclear inclusions in the human brain. *Neuropathol. Appl. Neurobiol.* 26: 161-171.
- Chang, P. and Stearns, T. 2000. Delta-tubulin and epsilon-tubulin: two new human centrosomal tubulins reveal new aspects of centrosome structure and function. *Nat. Cell Biol.* 2: 30-35.

CHROMOSOMAL LOCATION

Genetic locus: TUBD1 (human) mapping to 17q23.1; Tubd1 (mouse) mapping to 11 C.

RESEARCH USE

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

SOURCE

δ Tubulin (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of δ Tubulin of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-10466 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

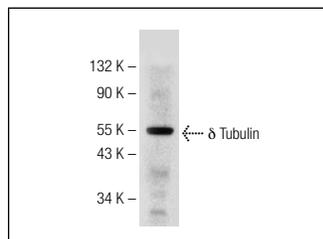
δ Tubulin (N-18) is recommended for detection of δ Tubulin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for δ Tubulin siRNA (h): sc-35157, δ Tubulin siRNA (m): sc-35158, δ Tubulin shRNA Plasmid (h): sc-35157-SH, δ Tubulin shRNA Plasmid (m): sc-35158-SH, δ Tubulin shRNA (h) Lentiviral Particles: sc-35157-V and δ Tubulin shRNA (m) Lentiviral Particles: sc-35158-V.

Molecular Weight of δ Tubulin: 51 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or NIH/3T3 whole cell lysate: sc-2210.

DATA



δ Tubulin (N-18): sc-10466. Western blot analysis of δ Tubulin expression in rat skeletal muscle tissue extract.

STORAGE

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

PROTOCOLS

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