SANTA CRUZ BIOTECHNOLOGY, INC.

ε Tubulin (H-280): sc-15373

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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. 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 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 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

1. Weisenberg, R. 1981. Invited review: the role of nucleotide triphosphate in actin and tubulin assembly and function. Cell Motil. 1: 485-497.
2. 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.
3. Burns, R.G. 1991. α-, β-, and γ-Tubulins: sequence comparisons and structural constraints. Cell Motil. Cytoskeleton 20: 181-189.
4. 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.
5. Luduena, R.F. 1998. Multiple forms of tubulin: different gene products and covalent modifications. Int. Rev. Cytol. 178: 207-275.
6. Modig, C., et al. 1999. Identification of βIII- and βIV-Tubulin isotypes in cold-adapted microtubules from Atlantic cod *(Gadus morhua):* antibody mapping and cDNA sequencing. Cell Motil. Cytoskeleton 42: 315-330.
7. Walss, C., et al. 1999. Presence of the βII isotype of Tubulin in the nuclei of cultured mesangial cells from rat kidney. Cell Motil. Cytoskeleton 42: 274-284.
8. Woulfe, J. and Munoz, D. 2000. Tubulin immunoreactive neuronal intranuclear inclusions in the human brain. Neuropathol. Appl. Neurobiol. 26: 161-171.
9. Chang, P. and Stearns, T. 2000. δ Tubulin and ε Tubulin: two new human centrosomal Tubulins reveal new aspects of centrosome structure and function. Nat. Cell Biol. 2: 30-35.

CHROMOSOMAL LOCATION

Genetic locus: TUBE1 (human) mapping to 6q21; Tube1 (mouse) mapping to 10 B1.

SOURCE

ε Tubulin (H-280) is a rabbit polyclonal antibody raised against amino acids 196-475 mapping at the C-terminus of ε Tubulin of human origin.

PRODUCT

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

APPLICATIONS

ε Tubulin (H-280) is recommended for detection of ε 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ε Tubulin (H-280) is also recommended for detection of ε Tubulin in additional species, including equine, canine and porcine.

Suitable for use as control antibody for ε Tubulin siRNA (h): sc-43486, ε Tubulin siRNA (m): sc-43487, ε Tubulin shRNA Plasmid (h): sc-43486-SH, ε Tubulin shRNA Plasmid (m): sc-43487-SH, ε Tubulin shRNA (h) Lentiviral Particles: sc-43486-V and ε Tubulin shRNA (m) Lentiviral Particles: sc-43487-V.

Molecular Weight of ε Tubulin: 55 kDa.

Positive Controls: mouse brain extract: sc-2253 or BJAB whole cell lysate: sc-2207.

SELECT PRODUCT CITATIONS

1. Rebacz, B., et al. 2007. Identification of griseofulvin as an inhibitor of centrosomal clustering in a phenotype-based screen. Cancer Res. 67: 6342-6350.

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.

PROTOCOLS

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