SANTA CRUZ BIOTECHNOLOGY, INC.

α Tubulin (TU-01): sc-51500

SANTA CRUZ BIOTECHNOLOGY
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.
5. Luduena, R.F. 1998. Multiple forms of tubulin: different gene products and covalent modifications. Int. Rev. Cytol. 178: 207-275.
6. 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.
7. 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.
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.

SOURCE

α Tubulin (TU-01) is a mouse monoclonal antibody raised against purified brain Tubulin of porcine origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

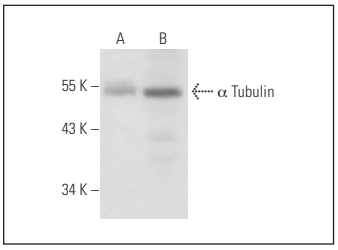
α Tubulin (TU-01) is recommended for detection of the N-terminal structural domain (amino acids 65-97) of α Tubulin of mouse, rat, human and porcine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

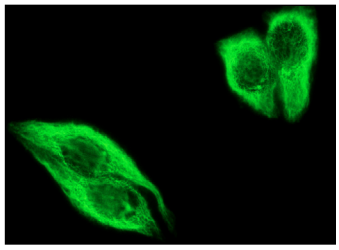
Molecular Weight of α Tubulin: 55 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

DATA



α Tubulin (TU-01): sc-51500. Western blot analysis of α Tubulin expression in PC-12 (**A**) and K-562 (**B**) whole cell lysates.



α Tubulin (TU-01): sc-51500. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization.

SELECT PRODUCT CITATIONS

1. Tresini, M., et al. 2007. Modulation of replicative senescence of diploid human cells by nuclear ERK signaling. J. Biol. Chem. 282: 4136-4151.
2. Nowinski, S.M., et al. 2015. Mitochondrial uncoupling links lipid catabolism to Akt inhibition and resistance to tumorigenesis. Nat. Commun. 6: 8137.
3. Svadlenka, J., et al. 2016. Multifunctional adaptor protein Daxx interacts with chromatin-remodelling ATPase Brg1. Biochem. Biophys. Rep. 5: 246-252.

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 for detailed protocols and support products.