SANTA CRUZ BIOTECHNOLOGY, INC.

β Tubulin (ONS.1A6): sc-58883

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 associ-ating 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., Jung, M.K. and Oakley, B.R. 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., Kreisberg, J.I. and Luduena, R.F. 1999. Presence of the β2 isotype of tubulin in the nuclei of cultured mesangial cells from rat kidney. Cell Motil. Cytoskeleton 42: 274-284.

CHROMOSOMAL LOCATION

Genetic locus: TUBB (human) mapping to 6p21.33; Tubb2b (mouse) mapping to 13 A3.3.

SOURCE

β Tubulin (ONS.1A6) is a mouse monoclonal antibody raised against the C-terminus of β Tubulin of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

β Tubulin (ONS.1A6) is recommended for detection of β 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with other Tubulin isotypes.

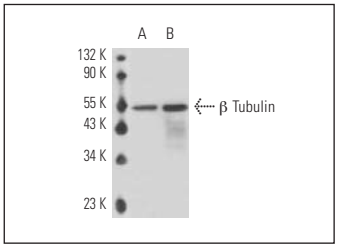
Molecular Weight of β Tubulin: 55 kDa.

Positive Controls: β5 Tubulin (h): 293T Lysate: sc-111777, MDA-MB-231 cell lysate: sc-2232 or MCF7 whole cell lysate: sc-2206.

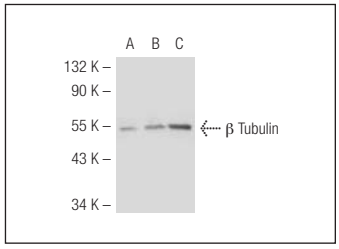
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



β Tubulin (ONS.1A6): sc-58883. Western blot analysis of β Tubulin expression in MDA-MB-231 (**A**) and MCF7 (**B**) whole cell lysates.



β Tubulin (ONS.1A6): sc-58883. Western blot analysis of β5 Tubulin expression in non-transfected 293T: sc-117752 (**A**), human β5 Tubulin transfected 293T: sc-111777 (**B**) and BJAB (**C**) whole cell lysates.

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.