

β2B Tubulin (AT5B3): sc-517430

BACKGROUND

Tubulin exists as five distinct forms, designated α , β , γ , δ and ϵ , all of which function as critical components of the cytoskeleton, specifically forming heterodimers which multimerize to produce microtubule filaments. Multiple β Tubulin isoforms ($\beta 1$, $\beta 2$, $\beta 3$, $\beta 4$, $\beta 5$, $\beta 6$ and $\beta 8$) have been characterized and are expressed in mammalian tissues. $\beta 1$ and $\beta 4$ are present throughout the cytosol, $\beta 2$ is present in the nuclei and nucleoplasm, and $\beta 3$ is a neuron-specific cytoskeletal protein. $\beta 2B$ Tubulin, also known as TUBB2B, is a 445 amino acid protein that exists as a heterodimer of α and β chains and plays an important role in the formation and maintenance of microtubules. Over expression of $\beta 2B$ Tubulin is associated with nonsmall cell lung carcinoma, suggesting a role for $\beta 2B$ Tubulin in carcinogenesis.

REFERENCES

1. Lee, M.G., Lewis, S.A., Wilde, C.D. and Cowan, N.J. 1983. Evolutionary history of a multigene family: an expressed human β -Tubulin gene and three processed pseudogenes. *Cell* 33: 477-487.
2. Burns, R.G. 1991. α -, β -, and γ -Tubulins: sequence comparisons and structural constraints. *Cell Motil. Cytoskeleton* 20: 181-189.
3. 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.
4. Luduena, R.F. 1998. Multiple forms of Tubulin: different gene products and covalent modifications. *Int. Rev. Cytol.* 178: 207-275.
5. Walss, C., Kreisberg, J.I. and Luduena, R.F. 1999. Presence of the $\beta 2$ iso-type of Tubulin in the nuclei of cultured mesangial cells from rat kidney. *Cell Motil. Cytoskeleton* 42: 274-284.
6. Modig, C., Olsson, P.E., Barasoin, I., de Ines, C., Andreu, J.M., Roach, M.C., Luduena, R.F. and Wallin, M. 1999. Identification of $\beta 3$ and $\beta 4$ Tubulin isotypes in cold-adapted microtubules from Atlantic cod (*Gadus morhua*): antibody mapping and cDNA sequencing. *Cell Motil. Cytoskeleton* 42: 315-330.
7. 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: TUBB2B (human) mapping to 6p25.2; Tubb2b (mouse) mapping to 13 A3.3.

SOURCE

$\beta 2B$ Tubulin (AT5B3) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 1-445 of $\beta 2B$ Tubulin of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and 1% glycerol.

APPLICATIONS

$\beta 2B$ Tubulin (AT5B3) is recommended for detection of $\beta 2B$ 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).

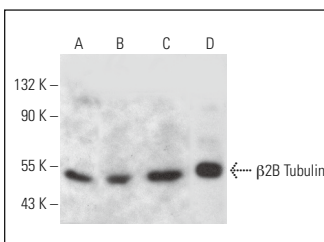
Suitable for use as control antibody for $\beta 2B$ Tubulin siRNA (h): sc-105006, $\beta 2B$ Tubulin siRNA (m): sc-108882, $\beta 2B$ Tubulin shRNA Plasmid (h): sc-105006-SH, $\beta 2B$ Tubulin shRNA Plasmid (m): sc-108882-SH, $\beta 2B$ Tubulin shRNA (h) Lentiviral Particles: sc-105006-V and $\beta 2B$ Tubulin shRNA (m) Lentiviral Particles: sc-108882-V.

Positive Controls: Neuro-2A whole cell lysate: sc-364185, C6 whole cell lysate: sc-364373 or mouse brain extract: sc-2253.

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



$\beta 2B$ Tubulin (AT5B3): sc-517430. Western blot analysis of $\beta 2B$ Tubulin expression in SW480 (A), Neuro-2A (B) and C6 (C) whole cell lysates and mouse brain tissue extract (D).

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.