SANTA CRUZ BIOTECHNOLOGY, INC.

β2A Tubulin (2-RY22): sc-134229

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (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. β2B 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.

REFERENCES

1. Lee, M.G., et al. 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 α 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., 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.
6. Kelley, M.J., et al. 2001. Genetic analysis of the β Tubulin gene, TUBB, in non-small-cell lung cancer. J. Natl. Cancer Inst. 93: 1886-1888.
7. Sale, S., et al. 2002. Re: genetic analysis of the β Tubulin gene, TUBB, in non-small-cell lung cancer. J. Natl. Cancer Inst. 94: 776-777.
8. Cucchiarelli, V., et al. 2008. β Tubulin isotype classes II and V expression patterns in nonsmall cell lung carcinomas. Cell Motil. Cytoskeleton 65: 675-685.

CHROMOSOMAL LOCATION

Genetic locus: TUBB2A (human) mapping to 6p25.2; Tubb2a (mouse) mapping to 13 A3.3.

SOURCE

β2A Tubulin (2-RY22) is a mouse monoclonal antibody raised against recombinant β2A Tubulin protein of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain 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

β2A Tubulin (2-RY22) is recommended for detection of β2A 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for β2A Tubulin siRNA (m): sc-108881, β2A Tubulin shRNA Plasmid (m): sc-108881-SH and β2A Tubulin shRNA (m) Lentiviral Particles: sc-108881-V.

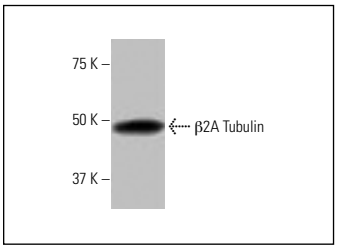
Molecular Weight of β2A Tubulin: 50 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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).

DATA



β2A Tubulin (2-RY22): sc-134229. Western blot analysis of β2A Tubulin expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

1. Doddrell, R.D., et al. 2013. Loss of SOX10 function contributes to the phenotype of human Merlin-null schwannoma cells. Brain 136: 549-563.
2. Roberts, S.L., et al. 2017. The role of p38α in Schwann cells in regulating peripheral nerve myelination and repair. J. Neurochem. 141: 37-47.
3. Mindos, T., et al. 2017. Merlin controls the repair capacity of Schwann cells after injury by regulating Hippo/YAP activity. J. Cell Biol. 216: 495-510.
4. Roberts, S.L., et al. 2017. Sox2 expression in Schwann cells inhibits myelination *in vivo* and induces influx of macrophages to the nerve. Development 144: 3114-3125.
5. Dun, X.P., et al. 2019. Macrophage-derived Slit3 controls cell migration and axon pathfinding in the peripheral nerve bridge. Cell Rep. 26: 1458-1472.e4.

RESEARCH USE

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