

β2C Tubulin (1A9): sc-134230

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 ($\beta 1$, $\beta 2$, $\beta 3$, $\beta 4$, $\beta 5$, $\beta 6$ 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. 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

- Weisenberg, R. 1981. Invited review: the role of nucleotide triphosphate in Actin and Tubulin assembly and function. *Cell Motil.* 1: 485-497.
- Burns, R.G. 1991. α , β , and γ Tubulins: sequence comparisons and structural constraints. *Cell Motil. Cytoskeleton* 20: 181-189.
- Zheng, Y., et al. 1991. γ Tubulin is present in *Drosophila melanogaster* and *Homo sapiens* and is associated with the centrosome. *Cell* 65: 817-823.

CHROMOSOMAL LOCATION

Genetic locus: TUBB4B (human) mapping to 9q34.3.

SOURCE

β2C Tubulin (1A9) is a mouse monoclonal antibody raised against recombinant β2C Tubulin protein of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

β2C Tubulin (1A9) is recommended for detection of β2C Tubulin of 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).

Suitable for use as control antibody for β2C Tubulin siRNA (h): sc-105007, β2C Tubulin shRNA Plasmid (h): sc-105007-SH and β2C Tubulin shRNA (h) Lentiviral Particles: sc-105007-V.

Molecular Weight of β2C Tubulin: 50 kDa.

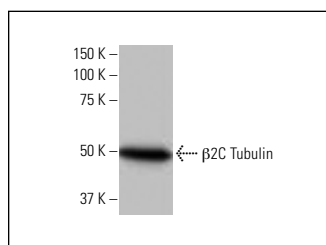
Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS

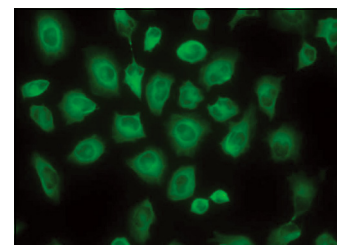
To ensure optimal results, the following support reagents are recommended:

- 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.
- Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



β2C Tubulin (1A9): sc-134230. Western blot analysis of β2C Tubulin expression in HeLa whole cell lysate.



β2C Tubulin (1A9): sc-134230. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

- Velho, A., et al. 2019. Expression dynamics of Integrin subunit β5 in bovine gametes and embryos imply functions in male fertility and early embryonic development. *Andrologia* 51: e13305.
- Menezes, E.S.B., et al. 2020. Sperm miR-15a and miR-29b are associated with bull fertility. *Andrologia* 52: e13412.
- Liu, H., et al. 2022. The N501Y mutation of SARS-CoV-2 spike protein impairs spindle assembly in mouse oocytes. *Reprod. Sci.* 29: 2842-2846.
- Laakmann, K., et al. 2023. Bacterial extracellular vesicles repress the vascular protective factor RNase1 in human lung endothelial cells. *Cell Commun. Signal.* 21: 111.

STORAGE

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

PROTOCOLS

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