

β Tubulin (AA2): sc-80011



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 (β 1, β 2, β 3, β 4, β 5, β 6 and β 8) have been characterized and are expressed in mammalian tissues. β 1 and β 4 are present throughout the cytosol, β 2 is present in the nuclei and nucleoplasm, and β 3 is a neuron-specific cytoskeletal protein. γ Tubulin forms the gammaosome, 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 melangaster* and *Homo sapiens* and is associated with the centrosome. *Cell* 65: 817-823.

SOURCE

β Tubulin (AA2) is a mouse monoclonal antibody raised against β Tubulin derived from brain tissue of bovine origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

β Tubulin (AA2) is recommended for detection of amino acids 412-430 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 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

β Tubulin (AA2) is also recommended for detection of amino acids 412-430 of β Tubulin in additional species, including bovine.

Molecular Weight of β Tubulin: 55 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Ramos cell lysate: sc-2216 or Jurkat whole cell lysate: sc-2204.

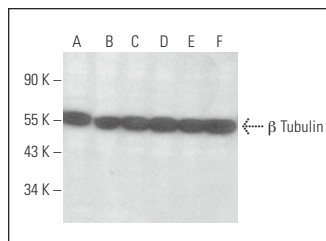
STORAGE

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

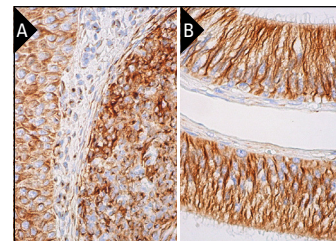
RESEARCH USE

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

DATA



β Tubulin (AA2): sc-80011. Western blot analysis of β Tubulin expression in HEL 92.1.7 (A), NIH/3T3 (B), TF-1 (C), CCRF-CEM (D), Jurkat (E) and Ramos (F) whole cell lysates.



β Tubulin (AA2): sc-80011. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic and membrane staining of cells in germinal center and cells in non-germinal center and cytoplasmic staining of squamous epithelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human epididymis tissue showing cytoplasmic and membrane staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Amodio, N., et al. 2010. Oncogenic role of the E3 ubiquitin ligase NEDD4-1, a PTEN negative regulator, in non-small-cell lung carcinomas. *Am. J. Pathol.* 177: 2622-2634.
- Zheng, D., et al. 2013. Role of Wnt7B-induced noncanonical pathway in advanced prostate cancer. *Mol. Cancer Res.* 11: 482-493.
- Yang, X., et al. 2015. miR-135 family members mediate podocyte injury through the activation of Wnt/ β -catenin signaling. *Int. J. Mol. Med.* 36: 669-677.
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- Baek, K.I., et al. 2018. Ultrafine particle exposure reveals the importance of FOXO1/Notch activation complex for vascular regeneration. *Antioxid. Redox Signal.* 28: 1209-1223.
- Li, X., et al. 2019. Promoter hypermethylation of SOX11 promotes the progression of cervical cancer *in vitro* and *in vivo*. *Oncol. Rep.* 41: 2351-2360.
- Baek, K.I., et al. 2022. Vascular injury in the zebrafish tail modulates blood flow and peak wall shear stress to restore embryonic circular network. *Front. Cardiovasc. Med.* 9: 841101.



See **β Tubulin (D-10): sc-5274** for β Tubulin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.