SANTA CRUZ BIOTECHNOLOGY, INC.

α Tubulin (AA13): sc-58668

SANTA CRUZ BIOTECHNOLOGY

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. There are five β Tubulin isoforms (β1, β2, β3, β4A and β4B) that 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 associating 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., et al. 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 α Tubulin mutants in cultured epithelial cells. J. Biol. Chem. 273: 2661-2668.

SOURCE

α Tubulin (AA13) is a mouse monoclonal antibody raised against brain Tubulin of rat origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

α Tubulin (AA13) is recommended for detection of α 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).

Suitable for use as control antibody for α Tubulin siRNA (h): sc-29188, α Tubulin siRNA (m): sc-29189, α Tubulin shRNA Plasmid (h): sc-29188-SH, α Tubulin shRNA Plasmid (m): sc-29189-SH, α Tubulin shRNA (h) Lentiviral Particles: sc-29188-V and α Tubulin shRNA (m) Lentiviral Particles: sc-29189-V.

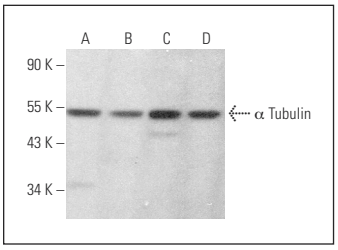
Molecular Weight of α Tubulin: 55 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, rat brain extract: sc-2392 or K-562 whole cell lysate: sc-2203.

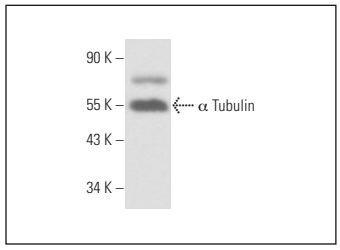
RECOMMENDED SUPPORT REAGENTS

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). 3) 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



α Tubulin (AA13): sc-58668. Western blot analysis of α Tubulin expression in PC-12 (**A**), A549 (**B**), Jurkat (**C**) and K-562 (**D**) whole cell lysates.



α Tubulin (AA13): sc-58668. Western blot analysis of α Tubulin expression in rat brain tissue extract.

SELECT PRODUCT CITATIONS

1. Marampon, F., et al. 2008. Nerve growth factor regulation of cyclin D1 in PC12 cells through a $p21^{RAS}$ extracellular signal-regulated kinase pathway requires cooperative interactions between Sp1 and nuclear factor-κB. Mol. Biol. Cell 19: 2566-2578.
2. Moszczynska, A. and Yamamoto, B.K. 2011. Methamphetamine oxidatively damages parkin and decreases the activity of 26S proteasome *in vivo*. J. Neurochem. 116: 1005-1017.
3. Capannolo, M., et al. 2014. Nitric oxide synthase inhibition reverts muscarinic receptor down-regulation induced by pilocarpine- and kainic acid-evoked seizures in rat fronto-parietal cortex. Epilepsy Res. 108: 11-19.
4. Osorio, L.A., et al. 2016. SNAIL transcription factor increases the motility and invasive capacity of prostate cancer cells. Mol. Med. Rep. 13: 778-786.
5. Venkatesan, N., et al. 2018. EZH2 promotes neoplastic transformation through VAV interaction-dependent extranuclear mechanisms. Oncogene 37: 461-477.

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.