SANTA CRUZ BIOTECHNOLOGY, INC.

α Tubulin (YOL1/34): sc-53030

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 (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. 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.

SOURCE

α Tubulin (YOL1/34) is a rat monoclonal antibody raised against full length purified α Tubulin of *Saccharomyces cerevisiae* origin.

PRODUCT

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

α Tubulin (YOL1/34) is available conjugated to agarose (sc-53030 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53030 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53030 PE), fluorescein (sc-53030 FITC), Alexa Fluor® 488 (sc-53030 AF488), Alexa Fluor® 546 (sc-53030 AF546), Alexa Fluor® 594 (sc-53030 AF594) or Alexa Fluor® 647 (sc-53030 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53030 AF680) or Alexa Fluor® 790 (sc-53030 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

α Tubulin (YOL1/34) is recommended for detection of α Tubulin of mouse, rat, human and yeast 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), 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 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.

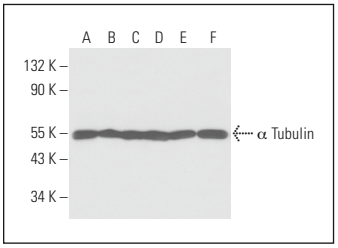
Molecular Weight of α Tubulin: 55 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or A-431 whole cell lysate: sc-2201.

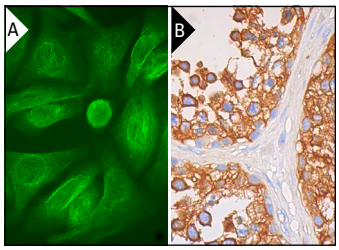
STORAGE

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

DATA



α Tubulin (YOL1/34): sc-53030. Western blot analysis of α Tubulin expression in NIH/3T3 (**A**), HeLa (**B**), A-431 (**C**), K-562 (**D**), PC-12 (**E**) and SW-13 (**F**) whole cell lysates.



α Tubulin (YOL1/34) Alexa Fluor® 488: sc-53030 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing cytoskeletal localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**A**).
α Tubulin (YOL1/34) HRP: sc-53030 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and membrane staining of cells in seminiferous ducts. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214 (**B**).

SELECT PRODUCT CITATIONS

1. Setty, S.R., et al. 2007. BLOC-1 is required for cargo-specific sorting from vacuolar early endosomes toward lysosome-related organelles. Mol. Biol. Cell 18: 768-780.
2. Ronghe, A., et al. 2016. 4-(E)-{(p-tolylimino)-methylbenzene-1,2-diol}, 1 a novel resveratrol analog, differentially regulates estrogen receptors α and β in breast cancer cells. Toxicol. Appl. Pharmacol. 301: 1-13.
3. English, B.C., et al. 2017. The transcription factor CHOP, an effector of the integrated stress response, is required for host sensitivity to the fungal intracellular pathogen *Histoplasma capsulatum.* PLoS Pathog. 13: e1006589.
4. Prashad, N. 2018. miR-665 targets c-Myc and HDAC8 to inhibit murine neuroblastoma cell growth. Oncotarget 9: 33186-33201.
5. Shoemaker, C.J., et al. 2019. CRISPR screening using an expanded toolkit of autophagy reporters identifies TMEM41B as a novel autophagy factor. PLoS Biol. 17: e2007044.
6. Ohnstad, A.E., et al. 2020. Receptor-mediated clustering of FIP200 bypasses the role of LC3 lipidation in autophagy. EMBO J. 39: e104948.
7. Bosco, A., et al. 2021. Pulchelloid A, a sesquiterpene lactone from the Canadian prairie plant *Gaillardia aristata* inhibits mitosis in human cells. Mol. Biol. Rep. 48: 5459-5471.
8. Ji, X., et al. 2022. Deficiency in Lyst function leads to accumulation of secreted proteases and reduced retinal adhesion. PLoS ONE 17: e0254469.

RESEARCH USE

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