SANTA CRUZ BIOTECHNOLOGY, INC.

# α Tubulin (YL1/2): sc-53029

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. 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 (YL1/2) 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 (YL1/2) is available conjugated to agarose (sc-53029 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-53029 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53029 PE), fluorescein (sc-53029 FITC), Alexa Fluor® 488 (sc-53029 AF488), Alexa Fluor® 546 (sc-53029 AF546), Alexa Fluor® 594 (sc-53029 AF594) or Alexa Fluor® 647 (sc-53029 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53029 AF680) or Alexa Fluor® 790 (sc-53029 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

α Tubulin (YL1/2) 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); also recommended for detection of the tyrosinated form of α Tubulin.

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.

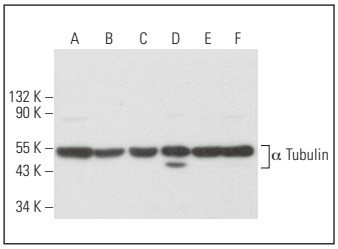
Molecular Weight of α Tubulin: 55 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, RAW 264.7 whole cell lysate: sc-2211 or A-10 cell lysate: sc-3806.

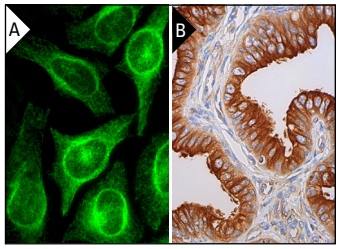
## STORAGE

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

## DATA




α Tubulin (YL1/2): sc-53029. Western blot analysis of α Tubulin expression in NIH/3T3 (**A**), RAW 264.7 (**B**), C3H/10T1/2 (**C**), Jurkat (**D**), A-10 (**E**) and K-562 (**F**) whole cell lysates.




α Tubulin (YL1/2): sc-53029. Immunofluorescence staining of formalin-fixed A-431 cells showing cytoskeletal localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic and membrane staining of glandular cells (**B**).

## SELECT PRODUCT CITATIONS


1. Frison, M., et al. 2007. The *Arabidopsis thaliana* trehalase is a plasma membrane-bound enzyme with extracellular activity. FEBS Lett. 581: 4010-4016.
2. Zhang, K., et al. 2017. Cryo-EM reveals how human cytoplasmic dynein is auto-inhibited and activated. Cell 169: 1303-1314.
3. Moloughney, J.G., et al. 2018. mTORC2 modulates the amplitude and duration of GFAT1 Ser243 phosphorylation to maintain flux through the hexosamine pathway during starvation. J. Biol. Chem. 293: 16464-16478.
4. Cowen, L.E., et al. 2019. Characterization of SMG7 14-3-3-like domain reveals phosphoserine binding-independent regulation of p53 and UPF1. Sci. Rep. 9: 13097.
5. Mitra, S., et al. 2020. Genetic screening identifies a SUMO protease dynamically maintaining centromeric chromatin. Nat. Commun. 11: 501.
6. Champagne, J., et al. 2021. Oncogene-dependent sloppiness in mRNA translation. Mol. Cell 81: 4709-4721.e9.
7. Tiryaki, F., et al. 2022. ENKD1 is a centrosomal and ciliary microtubule-associated protein important for primary cilium content regulation. FEBS J. 289: 3789-3812.
8. Ikizawa, T., et al. 2023. Mitochondria directly sense osmotic stress to trigger rapid metabolic remodeling via regulation of pyruvate dehydrogenase (PDH) phosphorylation. J. Biol. Chem. 299: 102837.
9. Yang, C., et al. 2024. Arginine deprivation enriches lung cancer proteomes with cysteine by inducing arginine-to-cysteine substitutants. Mol. Cell 84: 1904-1916.e7.


## RESEARCH USE

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