SANTA CRUZ BIOTECHNOLOGY, INC.

β Tubulin (D-10): sc-5274

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.

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. Zheng, Y., et al. 1991. β Tubulin is present in *Drosophila melangaster* and *Homo sapiens* and is associated with the centrosome. Cell 65: 817-823.

SOURCE

β Tubulin (D-10) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 210-444 of β Tubulin of human origin.

PRODUCT

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

β Tubulin (D-10) is available conjugated to agarose (sc-5274 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-5274 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-5274 PE), fluorescein (sc-5274 FITC), Alexa Fluor® 488 (sc-5274 AF488), Alexa Fluor® 546 (sc-5274 AF546), Alexa Fluor® 594 (sc-5274 AF594) or Alexa Fluor® 647 (sc-5274 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-5274 AF680) or Alexa Fluor® 790 (sc-5274 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

β Tubulin (D-10) is recommended for detection 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 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).

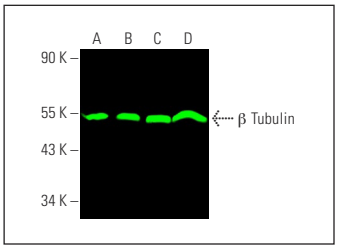
Molecular Weight of β Tubulin: 55 kDa.

Positive Controls: U-2 OS cell lysate: sc-2295, K-562 whole cell lysate: sc-2203 or BJAB whole cell lysate: sc-2207.

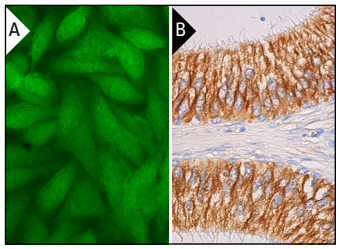
STORAGE

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

DATA



β Tubulin (D-10) Alexa Fluor® 680: sc-5274 AF680. Direct near-infrared western blot analysis of β Tubulin expression in U-2 OS (**A**), BJAB (**B**), U-251-MG (**C**) and K-562 (**D**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



β Tubulin (D-10) Alexa Fluor® 488: sc-5274 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing membrane localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**A**). β Tubulin (D-10) HRP: sc-5274 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human epididymis tissue showing cytoplasmic and membrane staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Vasseur, S., et al. 2002. p8-deficient fibroblasts grow more rapidly and are more resistant to adriamycin-induced apoptosis. Oncogene 21: 1685-1694.
2. Noessner, E., et al. 2002. Tumor-derived heat shock protein 70 peptide complexes are cross-presented by human dendritic cells. J. Immunol. 169: 5424-5432.
3. Rapizzi, E., et al. 2002. Recombinant expression of the voltage-dependent anion channel enhances the transfer of Ca^{2+} microdomains to mitochondria. J. Cell Biol. 159: 613-624.
4. Vasseur, S., et al. 2002. p8 is critical for tumour development induced by RasV12 mutated protein and E1A oncogene. EMBO Rep. 3: 165-170.
5. Deroo, B.J., et al. 2002. Proteasomal inhibition enhances glucocorticoid receptor transactivation and alters its subnuclear trafficking. Mol. Cell. Biol. 22: 4113-4123.
6. Fu, L., et al. 2019. Up-regulation of FOXD1 by YAP alleviates senescence and osteoarthritis. PLoS Biol. 17: e3000201.
7. Mazzera, L., et al. 2019. Functional interplay between NIK and c-Abl kinases limits response to Aurora inhibitors in multiple myeloma. Haematologica 4 pii: haematol.2018.208280.
8. Roake, C.M., et al. 2019. Disruption of telomerase RNA maturation kinetics precipitates disease. Mol. Cell 28 pii: S1097-2765(19)30144-3.
9. Jung, Y.D., et al. 2019. Lactate activates the E2F pathway to promote cell motility by up-regulating microtubule modulating genes. Cancers 11 pii: E274.

RESEARCH USE

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