

# $\alpha$ Tubulin (10D8): sc-53646

## BACKGROUND

Tubulin is a major cytoskeleton component that has five distinct forms, designated  $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\delta$  and  $\epsilon$  Tubulin.  $\alpha$  and  $\beta$  Tubulins form heterodimers which multimerize to form a microtubule filament. Multiple  $\beta$  Tubulin isoforms ( $\beta$ 1,  $\beta$ 2,  $\beta$ 3,  $\beta$ 4,  $\beta$ 5,  $\beta$ 6 and  $\beta$ 8) have been characterized and are expressed in mammalian tissues.  $\beta$ 1 and  $\beta$ 4 are present throughout the cytosol,  $\beta$ 2 is present in the nuclei and nucleoplasm, and  $\beta$ 3 is a neuron-specific cytoskeletal protein.  $\gamma$  Tubulin forms the  $\gamma$ some, which is required for nucleating microtubule filaments at the centrosome. Both  $\delta$  Tubulin and  $\epsilon$  Tubulin are associated with the centrosome.  $\delta$  Tubulin is a homolog of the *Chlamydomonas*  $\delta$  Tubulin Uni3 and is found in association with the centrioles, whereas  $\epsilon$  Tubulin localizes to the pericentriolar material.  $\epsilon$  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.C. 1981. Invited review: the role of nucleotide triphosphate in Actin and Tubulin assembly and function. *Cell Motil.* 1: 485-497.
- Zheng, Y., et al. 1991.  $\gamma$ -Tubulin is present in *Drosophila melanogaster* and *Homo sapiens* and is associated with the centrosome. *Cell* 65: 817-823.

## SOURCE

$\alpha$  Tubulin (10D8) is a mouse monoclonal antibody raised against full-length  $\alpha$  Tubulin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

$\alpha$  Tubulin (10D8) is recommended for detection of  $\alpha$  Tubulin of broad species origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (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  $\alpha$  Tubulin siRNA (h): sc-29188,  $\alpha$  Tubulin siRNA (m): sc-29189,  $\alpha$  Tubulin shRNA Plasmid (h): sc-29188-SH,  $\alpha$  Tubulin shRNA Plasmid (m): sc-29189-SH,  $\alpha$  Tubulin shRNA (h) Lentiviral Particles: sc-29188-V and  $\alpha$  Tubulin shRNA (m) Lentiviral Particles: sc-29189-V.

Molecular Weight of  $\alpha$  Tubulin: 55 kDa.

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

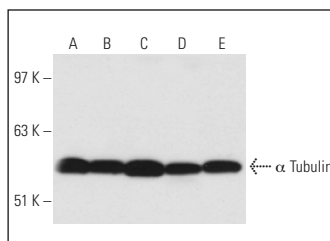
## STORAGE

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

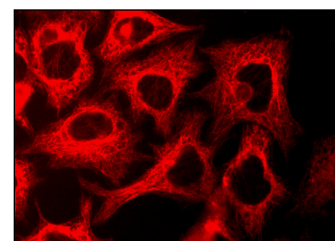
## RESEARCH USE

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

## DATA



$\alpha$  Tubulin (10D8): sc-53646. Western blot analysis of  $\alpha$  Tubulin expression in HeLa (A), A-431 (B), K-562 (C), PC-12 (D) and MCF7 (E) whole cell lysates.



$\alpha$  Tubulin (10D8): sc-53646. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization.

## SELECT PRODUCT CITATIONS

- Box, A.H., et al. 2010. AKT loss in human epithelial cells treated with severe hypoxia. *Biochim. Biophys. Acta* 1803: 951-959.
- Chang, C.C., et al. 2014. 3-Methylcholanthrene, an AhR agonist, caused cell-cycle arrest by histone deacetylation through a RhoA-dependent recruitment of HDAC1 and pRb2 to E2F1 complex. *PLoS ONE* 9: e92793.
- Sun, W.X., et al. 2015. Edaravone protects osteoblastic cells from dexamethasone through inhibiting oxidative stress and mPTP opening. *Mol. Cell. Biochem.* 409: 51-58.
- Piya, S., et al. 2016. Atg7 suppression enhances chemotherapeutic agent sensitivity and overcomes stroma-mediated chemoresistance in acute myeloid leukemia. *Blood* 128: 1260-1269.
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- Fioramonti, M., et al. 2018. Cabozantinib affects osteosarcoma growth through a direct effect on tumor cells and modifications in bone microenvironment. *Sci. Rep.* 8: 4177.
- Kankanamge, D., et al. 2019. G protein  $\alpha$ q exerts expression level-dependent distinct signaling paradigms. *Cell. Signal.* 58: 34-43.
- Rossi, A., et al. 2020. Defective mitochondrial pyruvate flux affects cell bioenergetics in Alzheimer's disease-related models. *Cell Rep.* 30: 2332-2348.e10.
- Ortin-Martinez, A., et al. 2021. Photoreceptor nanotubes mediate the *in vivo* exchange of intracellular material. *EMBO J.* 40: e107264.
- Xu, Z., et al. 2022. Autophagic degradation of CCN2 (cellular communication network factor 2) causes cardiotoxicity of sunitinib. *Autophagy* 18: 1152-1173.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.