

Microtubule Marker (B364): sc-58800

BACKGROUND

Microtubules are intracellular protein structures that serve as structural components within cells. Microtubules mediate many physical cellular processes including cytokinesis, mitosis and vesicular transport. Comprising one of the main components of the cytoskeleton, microtubules demonstrate diameters near 24 nm and lengths ranging from several micrometers to millimeters within axons of some nerve cells. Microtubules are created by polymers of tubulin dimers. Capable of enlarging and contracting for the purpose of generating force, microtubules stimulate and regulate the mitotic spindle used by eukaryotic cells to segregate their chromosomes during cell division. Microtubules also constitute part of the cilia and flagella of eukaryotic cells. In addition, motor proteins aid in cellular movement by advancing along microtubules. Markers for microtubules are useful in the study of function and behavior of these proteins, and can also be used to identify Actin bundles in subcellular fractions.

REFERENCES

1. Carazo-Salas, R.E. and Nurse, P. 2006. Self-organization of interphase microtubule arrays in fission yeast. *Nat. Cell Biol.* 8: 1102-1107.
2. Noiges, R., Stroissnigg, H., Tranciková, A., Kalny, I., Eichinger, R. and Propst, F. 2006. Heterotypic complex formation between subunits of microtubule-associated proteins 1A and 1B is due to interaction of conserved domains. *Biochim. Biophys. Acta* 1763: 1011-1016.
3. Bijman, M.N., van Nieuw Amerongen, G.P., Laurens, N., van Hinsbergh, V.W. and Boven, E. 2006. Microtubule-targeting agents inhibit angiogenesis at subtoxic concentrations, a process associated with inhibition of Rac1 and Cdc42 activity and changes in the endothelial cytoskeleton. *Mol. Cancer Ther.* 5: 2348-2357.
4. McGrath, J.L. 2006. Microtubule mechanics: a little flexibility goes a long way. *Curr. Biol.* 16: R800-R802.
5. Ionov, L., Stamm, M. and Diez, S. 2006. Reversible switching of microtubule motility using thermoresponsive polymer surfaces. *Nano Lett.* 6: 1982-1987.
6. Zheng, J., Fang, Y.D., Teng, M., Dang, Y.M., Kuang, Y., Yan, H., Zhang, D.X., Song, H.P., Zhang, Q. and Huang, Y.S. 2006. Study on the influence of hypoxia induced microtubule damage on the opening of mitochondrial permeable transition pore of cardiac myocytes in rat. *Zhonghua Shao Shang Za Zhi* 22: 195-198.
7. Katayama, M., Zhong, Z., Lai, L., Sutovsky, P., Prather, R.S. and Schatten, H. 2006. Mitochondrial distribution and microtubule organization in fertilized and cloned porcine embryos: implications for developmental potential. *Dev. Biol.* 299: 206-220.
8. Caviston, J.P. and Holzbaur, E.L. 2006. Microtubule motors at the intersection of trafficking and transport. *Trends Cell Biol.* 16: 530-537.
9. Molk, J.N. and Bloom, K. 2006. Microtubule dynamics in the budding yeast mating pathway. *J. Cell Sci.* 119: 3485-3490.

SOURCE

Microtubule Marker (B364) is a mouse monoclonal antibody raised against K-562 erythroleukemia cell line of human origin.

PRODUCT

Each vial contains 100 µg IgM in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Microtubule Marker (B364) is recommended for detection of an antigen associated with cytoplasmic microtubules of human origin by immunofluorescence and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.