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Product Information

Monoclonal Anti-α-Tubulin
Clone B-5-1-2
produced in mouse, ascites fluid

Catalog Number **T5168**

Product Description

Monoclonal Anti-α-Tubulin (mouse IgG1 isotype) is derived from the B-5-1-2 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. Sarkosyl-resistant filaments from *Strongylcentrotus purpuratus* (sea urchin) sperm axonemes[1] were used as the immunogen. The isotype is determined by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-α-Tubulin recognizes an epitope located in the C-terminal end of the α-tubulin isoform in a variety of organisms (e.g., human, sea urchin, *Chlamydomonas*).[1,2,3] The antibody has also been used to detect α-tubulin from many organisms studied in the laboratory (e.g. mouse, bovine, rat, African green monkey, kangaroo rat, chicken). The product is useful in immunoblotting, solid-phase RIA and immunocytochemistry using tissues or cultured cell line preparations.[1-4]

Tubulin is the major building block of microtubules. This intracellular, cylindrical, filamentous structure is present in almost all eukaryotic cells. Microtubules function as structural and mobile elements in mitosis, intracellular transport, flagellar movement and the cytoskeleton. Tubulin is a heterodimer which consists of α-tubulin and β-tubulin; both subunits have a molecular weight of ~50 kDa and share considerable homology. Structurally different tubulin subunits have been identified as the product of different genes. Microtubular systems contain at least three α-tubulin isoforms. Two isoforms are coded by two α-tubulin genes, which are both transcribed and code for extremely similar proteins. The third isoform is generated by post-translational modification.[5] At least three modifications of tubulin subunits have been described: the phosphorylation of β-tubulin from brain, the removal of the carboxy terminal tyrosine from α–tubulin in vertebrate tissues, and the acetylation of the amino group of lysine(s) in α-tubulin. Monoclonal antibody recognizing α-tubulin, together with monoclonal antibodies to other types of tubulins (β, β-tubulin isotype I + II, β-tubulin isotype III, tyrosine tubulin and the acetylated form of α-tubulin) provides a specific and useful tool in studying the intracellular distribution of tubulin, and the static and dynamic aspects of the cytoskeleton.

Monoclonal Anti-α-Tubulin, clone B-5-1-2, may be used for the localization of α-tubulin using various immunochemical assays such as immunoblotting, solid-phase RIA and immunohistochemistry.

Reagents

Supplied as ascites fluid with 15 mM sodium azide as a preservative

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, the solution may be frozen in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile

Indirect immunofluorescence: a working dilution of at least 1:2,000 was determined using cultured human or chicken fibroblasts.

Note: In order to obtain best results, it is recommended that each individual user determine their optimum working dilution by titration assay.

References

1. Piperno, G., et al., J. Cell Biol., **104**, 289 (1987).
2. LeDizet, M., and Piperno, G., Meth. Enzymol., **196**, 264 (1991).
3. LeDizet, M., and Piperno, G., Proc. Natl. Acad. Sci. USA, **84**, 5720 (1987).
4. Bulinski, J., et al., J. Cell Biol., **106**, 1213 (1988).
5. LeDizet, M., and Piperno, G., J. Cell Biol., **104**, 13 (1986).

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