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Product Information

Anti-α-Tubulin FITC antibody, Mouse monoclonal clone DM1A, purified from hybridoma cell culture

Product Number **F2168**

Product Description

Monoclonal Anti-α-Tubulin (mouse IgG1 isotype) is derived from the DM1A hybridoma produced by the fusion of mouse myeloma cells and splenocytes from immunized BALB/c mice. Purified chick brain microtubules were used as immunogen.[1] The isotype is determined by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2. The product is Protein A-purified Monoclonal Anti-α-Tubulin antibody conjugated to fluorescein isothiocyanate, isomer I. It is purified by gel filtration and contains no detectable free FITC.

Anti-α-Tubulin FITC antibody, Mouse monoclonal specifically recognizes an epitope in the carboxy-terminal part of α-tubulin.[2] It localizes α-tubulin in human, monkey, bovine, chicken, goat, murine, rat, gerbil, hamster, rat kangaroo, amphibia, sea urchin, trypanosome, yeast, fungi and tobacco.

It may be used for the detection and localization of α-tubulin using various immunocytochemical and immunohistochemical assays. It may also be used in dual staining assays.

α/β-Tubulin is the major building block of microtubules. These intracellular, hollow, cylindrical, filamentous structures are present in virtually all eukaryotic cells. Self-assembly of α/β-tubulin leads to polar microtubular structures built from linearly arranged strings of alternatively α- and β-tubulin pairs pointing in the same direction. Microtubules function as structural and mobile elements in mitosis, intracellular transport, ciliary flagellar motility and generation and maintenance of cell shape. α/β-Tubulin and γ-tubulin are members of the tubulin superfamily of proteins. α/β-Tubulin is a heterodimer which consists of one α-tubulin chain and one β-tubulin chain; each subunit has a molecular weight of 55 kDa and they share considerable homology.[3,4,5]

Both subunits exist in multiple isotypes in many organisms and tissues.[6] The C-terminal portions of the two subunits have an unusually high proportion of acidic residues. Tubulin can be postranslationally modified by phosphorylation (β-tubulin) or by acetylation, detyro-sylation and glutamylation (α-tubulin). Tubulin is a highly conserved protein although exceptional cases have been reported. It specifically interacts with ions, nucleotides, microtubule-associated proteins (MAPs) and drugs. The large N-terminal domain of the α and β-tubulin subunits bind GTP. GTP binding to α-tubulin is non-exchangeable while that to the β-subunit is exchangeable. This GTP is hydrolysed upon microtubule assembly. The smaller C-terminal domain of the two subunits bind MAPs. Both domains are involved in microtubular self-assembly. Antibodies to tubulin are specific and useful tools in studying the intracellular distribution of tubulin and the static and dynamic aspects of the cytoskeleton.

Reagents

Supplied as a solution in M phosphate buffered saline, pH 7.4, containing 1% BSA and 15mM sodium azide as a preservative.

Precautions

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

Product Profile

Direct immunofluorescence: a minimum dilution of 1:50 is determined using cultured human fibroblasts or baby hamster kidney (BHK) cells.

Note: In order to obtain best results, it is recommended that each user determine the optimal working dilution for individual applications by titration assay.

F/P Molar Ratio**:** range is 3-8

Protein Concentration: not less than 1.5 mg/ml by absorbance at 280 nm ($E_{280}^{1\%}$ = 14.0)

Storage

For continuous use, store at 2-8 °C for a maximum of one month. For extended storage, freeze 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.

References

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