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ProductInformation

MONOCLONAL ANTI-TYROSINE TUBULIN
Clone TUB-1A2
Mouse Ascites Fluid

Product Number **T 9028**

Product Description

Monoclonal Anti-Tyrosine Tubulin (mouse IgG3 isotype) is derived from the hybridoma produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. A peptide containing the carboxy terminal amino acids of α-tubulin was used as the immunogen. The isotype is determined using Sigma ImmunoType™ Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Monoclonal Anti-Tyrosine Tubulin is immunospecific for tubulin as determined by indirect immunofluorescent staining of cultured chicken fibroblasts. The product is non-reactive with cells that have been treated with pancreatic carboxypeptidase A under conditions which remove only the C-terminal tyrosine. This antibody reacts with tyrosine tubulin from the following sources: bovine brain, African Green Monkey kidney cells (Vero), dog kidney (MDCK), marsupial kidney (Potoroo, PtK_2), mouse pituitary tumor (AtT-20), yeast, and *Xenopus*.[1]

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 mobility elements in mitosis, intracellular transport, flagellar movement, and in the cytoskeleton. Tubulin is a heterodimer which consists of α-tubulin and β-tubulin; both subunits have a molecular weight of 55 kDa and share considerable homology. The most widely studied tubulins have been isolated from vertebrate brains. The microtubules can be viewed in immunofluorescent microscopy allowing for the observation of the intracellular organization of proteins that are in the form of a supramolecular structure.

Distinct classes of interphase microtubules have been described in tissue culture cells. They contain post-translationally modified subunits of tubulin, detyrosinated α-tubulin (Glutubulin) or acetylated α-tubulin. The dynamic properties of microtubules of the Tyrtubulin type studied in living cells have suggested that they turnover and grow very rapidly *in vivo* with most microtubules exchanging within a half-time of approximately 10 minutes. Minor subpopulations of interphase microtubules have been found to be more stable in that they resist exchange for several hours, or that they are less sensitive to microtubule disrupting drugs. The coding portion of genes encoding α-tubulin terminates in a tyrosine codon indicating that the primary gene product is tyrosinated (Tyr-Tu). Tubulin tyrosinylation is involved in the assembly status of tubulin. A specific tubulinyl tyrosine carboxypeptidase removes the terminal tyrosine to yield an α-tubulin terminating in a glutamic acid residue while another enzyme modifies the α-tubulin by addition of tyrosine to the carboxy terminus to offer a potential cycle of tyrosine addition and loss.

Monoclonal Anti-Tyrosine Tubulin maybe used for the immunocytochemical localization of tyrosinated α-tubulin by indirect immunofluorescent labeling of cultured cells or for specific identification in an immunoblotting technique.

Reagents

The product is provided as ascites fluid with 0.1% sodium azide as a preservative.

Precautions and Disclaimer

Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS 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, solution may be frozen in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify by centrifugation before use.

Product Profile
A minimum working dilution of 1:800 was determined by indirect immunofluorescent labeling of cultured chicken fibroblasts.

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

References
1. Kreis, T., EMBO J., **6**, 2597 (1987).

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