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ProductInformation

Monoclonal Anti-β-Tubulin Isotype I + II
Clone JDR.3B8
Mouse Ascites Fluid

Product Number **T 8535**

Product Description

Monoclonal Anti-β-Tubulin Isotype I + II (mouse IgG2b isotype) is derived from the JDR.3B8 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from immunized BALB/c mice.[1] A chemically synthesized peptide corresponding to the carboxyl-terminal sequence of human β-tubulin isotype II coupled to BSA was used as the immunogen.[1,2] The isotype is determined using Sigma ImmunoType™ Kit (Product No. ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product No. ISO-2).

Monoclonal Anti-β-Tubulin Isotype I + II specifically recognizes an epitope located on the isotypes I and II of human β-tubulin. It cross-reacts with bovine, chicken, mouse, pig, and rat preparations of β-tubulin as well. Using the immunoblotting technique, the antibody localizes the tubulin band in a rat brain extract, bovine brain MAPs extract, chicken brain preparation, and chicken fibroblasts cell line. Using the immunofluorescence technique, the antibody localizes the β-tubulin isotypes I and II in human and chicken fibroblasts.

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. Except in the simplest eukaryotes, tubulin exists in all cells as a mixture of similar but not identical sets of α- and β-tubulin polypeptides. Within either family, individual subunits diverge from each other (both within and across species) at less than 10% of the amino acid positions.[3] The most extreme diversity is localized to the carboxy-terminal 15 residues. For β-tubulin, five evolutionarily conserved isotype clones have been identified. These are almost totally conserved in the subunits utilized in the same cell types of different species with the exception of the hematopoietic β-tubulin which is highly divergent in sequence and which is not conserved between species. Research has been centered around the hypothesis that these β-tubulin isotypes contribute to unique functional properties. It has been reported that the different isotypes of tubulin differ from each other in their ability to polymerize into microtubules.[2]

Monoclonal Anti-β-Tubulin Isotype I + II may be used for the localization of β-tubulin isotypes I and II using various immunochemical assays such as ELISA, immunoblot, dot blot, and immunocytochemistry. It may also be used for immunoaffinity purification and precipitation of the isotypes I and II.

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, freeze 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 the solution by centrifugation before use.

Product Profile

The minimum antibody titer of 1:1,000 was determined by immunoblotting using either a chicken fibroblasts extract or a chicken brain tubulin preparation.

In order to obtain best results in different techniques and preparations, it is recommended that each individual user determine their optimum working dilutions by titration assay.

References

1. Banerjee, A., et al., J. Biol. Chem., **263**, 3029 (1988).
2. Banerjee, A., et al., J. Biol. Chem., **265**, 1794 (1990).
3. Joshi, H. C., and Cleveland, D. W., Cell Motil. Cytoskeleton, **16**, 159 (1990).

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