Data Sheet

Anti-α-Tubulin Antibody, Mouse Monoclonal

Clone B-5-1-2, purified from hybridoma cell culture

T6074

Product Description

Monoclonal Anti-α-Tubulin (mouse IgG1 isotype) is derived from the hybridoma B-5-1-2 produced by the fusion of mouse myeloma cells and splenocytes from mice immunized with Sarkosyl-resistant filaments from Stronglycentrotus purpuratus (sea urchin). The isotype is determined using ImmunoType™ Kit (Cat. No. ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Cat. No. ISO-2).

Monoclonal Anti-α-Tubulin recognizes an epitope located at the C-terminal end of the α-tubulin isoform, in a variety of organisms (Example. human, mouse, bovine, rat, African green monkey, kangaroo rat, chicken, sea urchin, and chlamydomonas).[1, 2, 3] The antibody may be used in various immunochemical techniques including immunoblotting, solid-phase RIA, immunocytochemistry using tissues or cultured cell line preparations,[1-4] and immunoprecipitation.[8]

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 that consists of α-tubulin and β-tubulin. Both subunits have a molecular weight of approx. 50 kDa and share considerable homology. In addition to α- and β-tubulin, several other tubulins have been identified, bringing the number of distinct tubulin classes to seven. Most of these tubulins have distinct subcellular localization and an emerging diverse set of functions.[6] Out of the seven different tubulins four new members of the tubulin family were identified recently, which consist of δ, ζ, η, and ε-tubulin. η and ε -tubulins were discovered by database searches.[7] 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 carboxyterminal tyrosine form α-tubulin in vertebrate tissues, and the acetylation of the amino group of lysine(s) in α-tubulin.

Monoclonal antibodies recognizing α-tubulin, together with monoclonal antibodies to other tubulin types (β, β-tubulin isotype I +II, β -tubulin isotype III, tyrosine tubulin, and the acetylated form of α-tubulin) provide a specific and useful tool in studying the intracellular distribution of tubulin and the static and dynamic aspects of cytoskeleton.

Reagent

Monoclonal Anti- α -Tubulin is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: Approx. 2 mg/mL

Precautions and Disclaimer

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.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

By immunoblotting, a working antibody concentration of 0.25-0.5 µg/mL is recommended using a total cell extract of the human foreskin fibroblast cell line (FS11).

By immunocytochemistry, a working antibody concentration of 0.5-1 µg/mL is recommended using cultured chicken fibroblasts (CFB).

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

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