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ProductInformation

ANTI-γ-TUBULIN
Developed in Rabbit, Affinity Isolated Antibody

Product Number **T 5192**

Product Description

Anti-γ-Tubulin is developed in rabbit using a synthetic peptide corresponding to the N-terminal region of human γ-tubulin (amino acids 38-53, with C-terminally added lysine) conjugated to KLH as immunogen. This sequence is specific for γ-tubulin and not found in other members of the tubulin family such as α,β,δ and ε tubulins. This sequence is identical in mouse and rat γ-tubulin and highly conserved among species (*drosophila, aspergillus* and yeast γ-tubulin). Anti-γ-Tubulin is affinity-purified using the immunogenic peptide immobilized on agarose.

Anti-γ-Tubulin recognizes human and chicken γ-tubulin (48 kDa). Applications include immunoblotting and immunocytochemistry (immunofluorescence staining of methanol/acetone fixed cells). Staining of γ-tubulin in immunoblotting is specifically inhibited with γ-tubulin immunizing peptide.

γ-Tubulin is a widely expressed and highly conserved protein within the microtubule organizing centers (MTOCs) or centrosome in eukaryotic cells.[1] It is a member of the tubulin superfamily of proteins that includes α- and β-tubulin and the newly discovered centrosomal-associated proteins, δ- and ε-tubulin.[1,2] The microtubule cytoskeleton consists of a dynamic, highly polarized network of microtubules filaments, microtubule-associated proteins, microtubule motors and microtubule-organizing proteins. The proper organization of microtubules is essential for cell division and chromosome segregation, directed cell movement, interphase cytoplasmic organization and other cytoskeletal functions.[1] Microtubules are complex polymers of α-tubulin/β-tubulin heterodimers. Centrosomes nucleate the assembly of microtubules and establish the polarity of microtubules. γ-Tubulin has an essential role in microtubule nucleation by the centrosomes.[3-9] γ-Tubulin does not polymerize with α-tubulin/β-tubulin, but instead it is localized to the centrosome and to the cytoplasm.[1,4-6] γ-Tubulin is found as part of a large protein complex containing at least five other proteins, and has a shape of a ring (γ-tubulin ring complex, γ-TuRC) that is roughly the same diameter as a microtubule.[9-13] γ-Tubulin binds the microtubule minus ends and is responsible for mediating the link between microtubules and the centrosome.[1,6] It binds to the β-tubulin half of the tubulin molecule, thus establishing the polarity of a microtubule, leaving the α-tubulin half exposed at the plus end. γ-Tubulin abundance is less than 1% of the level of either α- or β-tubulin.[5] γ-Tubulin shares approximately 28 to 32 % identity with α-tubulin from various organisms, 32 to 36 % identity with β-tubulins and 29 to 30 % identity with δ- and ε-tubulin, respectively. Some regions (including regions thought to be involved in GTP binding) are highly conserved among α-, β- and γ-, δ- and ε-tubulins.[2]

Reagent

Anti-γ-Tubulin is supplied as affinity isolated antibody in 0.01 M phosphate buffered saline, pH 7.4, containing 1 % bovine serum albumin and 15 mM sodium azide.

Precautions and Disclaimer

Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution.
Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability

For continuous use, store at 2 °C to 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. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

A minimum working dilution of 1:1,000 is determined by immunoblotting using a whole cell extract human epidermal carcinoma A431 cell line.

A minimum working dilution of 1:1,000 is determined by indirect immunofluorescent staining of methanol/acetone-fixed chicken fibroblasts.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working dilution by titration test.

References

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