Monoclonal Antibody to beta-tubulin
Purified Antibody (0.1 mg)

Clone: TU-13
Isotype: Mouse IgM
Specificity: The antibody TU-13 recognizes an epitope on N-terminal structural domain of beta-tubulin in various species.
Regulatory Status: RUO
Immunogen: beta-tubulin from porcine brain
Species Reactivity: Human, Porcine, Mouse, Plants
Application: Western Blotting
Recommended dilution: 1 µg/ml
Positive control: RAJI human cell line, RAMOS human cell line, THP-1 human cell line, HeLa human cell line, EL4 mouse cell line, MCF7 human cell line
Sample preparation: Resuspend approx. 50 mil. cells in 1 ml cold Lysis buffer (1% laurylmaltoside in 20 mM Tris/Cl, 100 mM NaCl pH 8.2, 50 mM NaF including Protease inhibitor Cocktail). Incubate 60 min on ice. Centrifuge to remove cell debris. Mix lysate with reducing Laemmli SDS-PAGE sample buffer. Boil for 5 min.
Application note: Reducing conditions. Sonication of MCF7 cells is recommended.
Immunohistochemistry (frozen sections)
Immunocytochemistry
Purity: > 95% (by SDS-PAGE)
Purification: Purified by precipitation and chromatography
Concentration: 1 mg/ml
Storage Buffer: Tris buffered saline (TBS) with 15 mM sodium azide, approx. pH 8.0
Storage / Stability: Store at 2-8°C. Do not freeze. Do not use after expiration date stamped on vial label.
Expiration: See vial label
Lot Number: See vial label
Background:

The microtubules are intracellular dynamic polymers made up of evolutionarily conserved polymorphic alpha/beta-tubulin heterodimers and a large number of microtubule-associated proteins (MAPs). The microtubules consist of 13 protofilaments and have an outer diameter 25 nm. Microtubules have their intrinsic polarity; highly dynamic plus ends and less dynamic minus ends. Microtubules are required for vital processes in eukaryotic cells including mitosis, meiosis, maintenance of cell shape and intracellular transport. Microtubules are also necessary for movement of cells by means of flagella and cilia. In mammalian tissue culture cells microtubules have their minus ends anchored in microtubule organizing centers (MTOCs). The GTP (guanosine triphosphate) molecule is an essential for tubulin heterodimer to associate with other heterodimers to form microtubule. In vivo, microtubule dynamics vary considerably. Microtubule polymerization is reversible and a populations of microtubules in cells are on their minus ends either growing or shortening; this phenomenon is called dynamic instability of microtubules. On a practical level, microtubules can easily be stabilized by the addition of non-hydrolysable analogues of GTP (e.g. GMPPCP) or more commonly by anti-cancer drugs such as Taxol. Taxol stabilizes microtubules at room temperature for many hours. Using limited proteolysis by enzymes both tubulin subunits can be divided into N-terminal and C-terminal structural domains. The beta-tubulin (relative molecular weight around 50 kDa) is counterpart of alpha-tubulin in tubulin heterodimer, it is coded by multiple tubulin genes and it is also posttranslationally modified. Heterogeneity of subunit is concentrated in C-terminal structural domain.

References: