

AM03087PU-N**Monoclonal Antibody to TUBB / TUBB5 - Purified**

Alternate names:	Tubulin beta chain, Tubulin beta-5 chain
Quantity:	0.1 mg
Concentration:	1.0 mg/ml
Background:	<p>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 (guanosinotriphosphate) 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 (eg. 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.</p> <p>The beta-tubulin (relative molecular weight about 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.</p>
Uniprot ID:	P07437
NCBI:	NP_821133.1
GeneID:	203068
Host / Isotype:	Mouse / IgM
Recommended Isotype Controls:	SM13P
Clone:	TU-13
Immunogen:	beta-tubulin from porcine brain.
Format:	State: Liquid purified IgG fraction (> 95% pure by SDS-PAGE). Purification: Precipitation Methods and Size-Exclusion Chromatography. Buffer System: PBS, pH 7.4 with 15 mM Sodium Azide as preservative.

- Applications:** **Western Blotting** (Reducing Conditions): 1 µg/ml, Sonication of MCF7 cells is recommended.
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.
Immunohistochemistry (Frozen Sections).
Immunocytochemistry.
ELISA.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
- Specificity:** The antibody TU-13 recognizes an epitope on N-terminal structural domain of beta-tubulin in various species.
Species: Human, Porcine, Mouse, Plants.
Other species not tested.
- Storage:** Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch
- General Readings:**
1. Linhartová I, Dráberová E, Viklický V, Dráber P. Distribution of non-class-III beta-tubulin isoforms in neuronal and non-neuronal cells. *FEBS Lett.* 1993 Mar 29;320(1):79-82. PubMed PMID: 8462682.
 2. Lewis, S.A., Cowan, N.J.: Tubulin genes: structure, expression, and regulation. In: Avila, J. (ed.): *Microtubule proteins*. Boca Raton: CRC Press, Inc. 1990. Pp. 37-66.
 3. Dráber P, Lagunowich LA, Dráberová E, Viklický V, Damjanov I. Heterogeneity of tubulin epitopes in mouse fetal tissues. *Histochemistry.* 1988;89(5):485-92. PubMed PMID: 2459085.
 4. Dráber P, Vater W, Böhm KJ, Kuklova E, Unger E. Inhibition of microtubule assembly in vitro by anti-tubulin monoclonal antibodies. *FEBS Lett.* 1990 Mar 26;262(2):209-11. PubMed PMID: 2335201.