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TUBB3 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1310a

Specification

TUBB3 Antibody - Product Information

Application	**WB, FC, ICC, E**
Primary Accession	Q13509
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**50kDa KDa**

Description
Tubulin, beta 3, also known as TUBB3. Tubulin is the major constituent of microtubules. It binds two moles of GTP, one at an exchangeable site on the beta chain and one at a non exchangeable site on the alpha-chain. Tubulin is a highly conserved protein with a molecular weight of ~50 kD. Microtubules play key roles in chromosome segregation in mitosis, intracellular transport, ciliary and flagellar bending, and structural support of the cytoskeleton. The two main tubulin isoforms, α- and β-tubulin, are usually products of separate genes. The β-tubulin family includes six expressed genes that produce the polypeptide isoforms known as Classes I through VI, each of which have a distinct pattern of expression. Class III β-tubulin is found in neurons and mammalian testis cells and is widely used as a neuronal marker in developmental neurobiology, neoplasia, and stem cell research. Class III β-tubulin expression in neuronal and neuroblastic tumors is differentiation dependent, and its expression in certain non-neuronal neoplasms has been associated with poor prognosis and/or resistance to chemotherapy.

Immunogen
Purified recombinant fragment of human TUBB3 expressed in E. Coli.

Formulation
Ascitic fluid containing 0.03% sodium azide.

TUBB3 Antibody - Additional Information

Gene ID 10381

Other Names
Tubulin beta-3 chain, Tubulin beta-4 chain, Tubulin beta-III, TUBB3, TUBB4

Dilution
WB~~1/500 - 1/2000
FC~~1/200 - 1/400
ICC~~N/A
E~~N/A

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
TUBB3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

TUBB3 Antibody - Protein Information

Name TUBB3

Synonyms TUBB4

Function
Tubulin is the major constituent of microtubules, protein filaments consisting of alpha- and beta-tubulin heterodimers (PubMed:34996871, PubMed:38305685, PubMed:38609661). Microtubules grow by the addition of GTP-tubulin dimers to the microtubule end, where a stabilizing cap forms (PubMed:34996871, PubMed:38305685, PubMed:38609661). Below the cap, alpha-beta tubulin heterodimers are in GDP-bound state, owing to GTPase activity of alpha-tubulin (PubMed:34996871, PubMed:38609661). TUBB3 plays a critical role in proper axon guidance and maintenance (PubMed:20074521). Binding of NTN1/Netrin-1 to its receptor UNC5C might cause dissociation of UNC5C from polymerized TUBB3 in microtubules and thereby lead to increased microtubule dynamics and axon repulsion (PubMed:28483977). Plays a role in dorsal root ganglion axon projection towards the spinal cord (PubMed:28483977).

Cellular Location
Cytoplasm, cytoskeleton. Cell projection, growth cone {ECO:0000250|UniProtKB:Q9ERD7}. Cell projection, lamellipodium {ECO:0000250|UniProtKB:Q9ERD7}. Cell projection, filopodium {ECO:0000250|UniProtKB:Q9ERD7}

Tissue Location
Expression is primarily restricted to central and peripheral nervous system. Greatly increased expression in most cancerous tissues.

TUBB3 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

TUBB3 Antibody - Images

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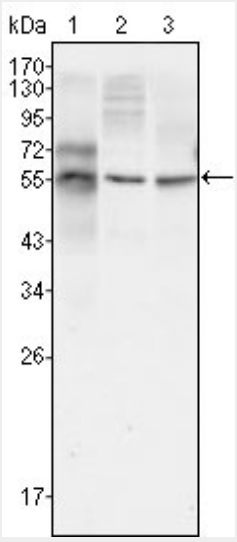

Figure 1: Western blot analysis using TUBB3 mouse mAb against HepG2 (1), A549 (2) and Hela (3) cell lysate.

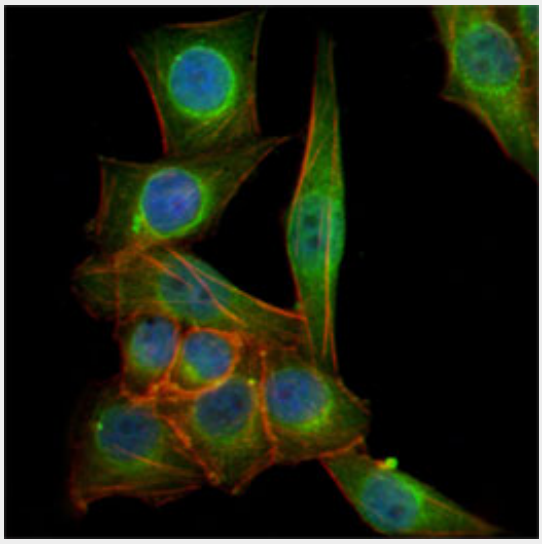

Figure 2: Immunofluorescence analysis of PANC-1 cells using TUBB3 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

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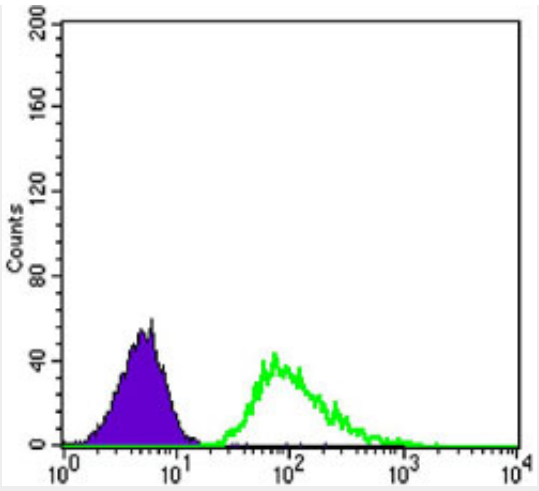

Figure 3: Flow cytometric analysis of A549 cells using TUBB3 mouse mAb (green) and negative control (purple).

TUBB3 Antibody - References

1. Histopathology. 2007 Jun;50(7):949-52. 2. Neurochem Res. 2007 Aug;32(8):1387-98. 3. Exp Eye Res. 1995 Apr;60(4):385-400.