Datasheet for ABIN93914

anti-TUBB antibody

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Overview

Quantity:	0.1 mg
Target:	TUBB
Reactivity:	Human, Mouse, Rat, Pig, Chicken, Tetrahymena, Fish, Paramecium, Nicotiana tabacum, Arabidopsis
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This TUBB antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (Paraffin-embedded Sections) (IHC (p)), Immunocytochemistry (ICC)

Product Details

Immunogen:	Beta-subunits of porcine brain tubulin.
Clone:	TU-06
Isotype:	IgM
Specificity:	The antibody TU-06 recognizes an epitope (aa 81-95) on phylogenetically conserved N-terminal structural domain of beta-tubulin (recognizes all beta-tubulin isoforms) in various species.
Cross-Reactivity (Details):	Broad species reactivity
Purification:	Purified by sequential steps of physicochemical fractionation (differential precipitation and solid-phase chromatography methods).
Purity:	> 95 % (by SDS-PAGE)

Target Details

Target:	TUBB
Alternative Name:	beta-tubulin (TUBB Products)
Background:	Tubulin beta,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 (guanosintriphosphate) 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. 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.,TUBB
Gene ID:	81027
UniProt:	Q9H4B7
Pathways:	Microtubule Dynamics, M Phase

Application Details

Application Notes:	Immunocytochemistry: Recommended dilution: 2 µg/mL, fixed and permeabilized cells, positive control: 3T3 mouse embryonal fibroblast cell line. Immunohistochemistry (paraffin sections): Recommended dilution: 5 µg/mL, positive tissue: heart. Western blotting: Recommended dilution: 1-2 µg/mL.
Restrictions:	For Research Use only

Handling

Concentration:	1 mg/mL
Buffer:	Tris buffered saline (TBS), pH 8.0, 15 mM sodium azide
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Handling Advice:	**Do not freeze.**
Storage:	4 °C
Storage Comment:	Store at 2-8°C. Do not freeze.

Publications

Product cited in:

Tobita, Liu, Janczewski, Tinney, Nonemaker, Augustine, Stolz, Shroff, Keller: "Engineered early embryonic cardiac tissue retains proliferative and contractile properties of developing embryonic myocardium." in: **American journal of physiology. Heart and circulatory physiology** , Vol. 291, Issue 4, pp. H1829-37, (2006) (PubMed).

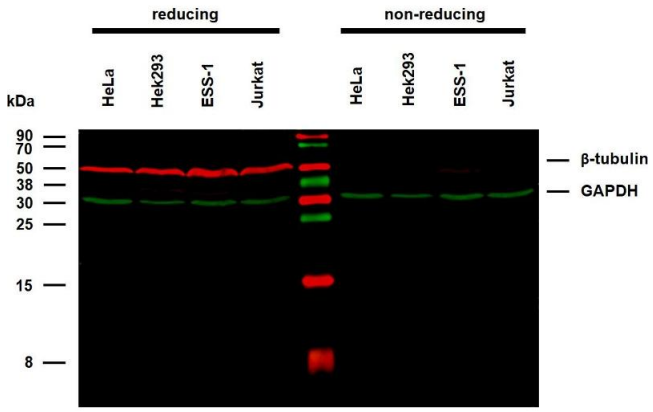
Libusová, Sulimenko, Sulimenko, Janisch, Hozák, Dráber: "Distinct localization of a beta-tubulin epitope in the Tetrahymena thermophila and Paramecium caudatum cortex." in: **Protoplasma**, Vol. 225, Issue 3-4, pp. 157-67, (2005) (PubMed).

Solecki, Model, Gaetz, Kapoor, Hatten: "Par6alpha signaling controls glial-guided neuronal migration." in: **Nature neuroscience**, Vol. 7, Issue 11, pp. 1195-203, (2004) (PubMed).

Smertenko, Blume, Viklický, Opatrný, Dráber: "Post-translational modifications and multiple tubulin isoforms in Nicotiana tabacum L. cells." in: **Planta**, Vol. 201, Issue 3, pp. 349-58, (1997) (PubMed).

Smertenko, Blume, Viklický, Dráber: "Exposure of tubulin structural domains in Nicotiana tabacum microtubules probed by monoclonal antibodies." in: **European journal of cell biology**, Vol. 72, Issue 2, pp. 104-12, (1997) (PubMed).

There are more publications referencing this product on: Product page

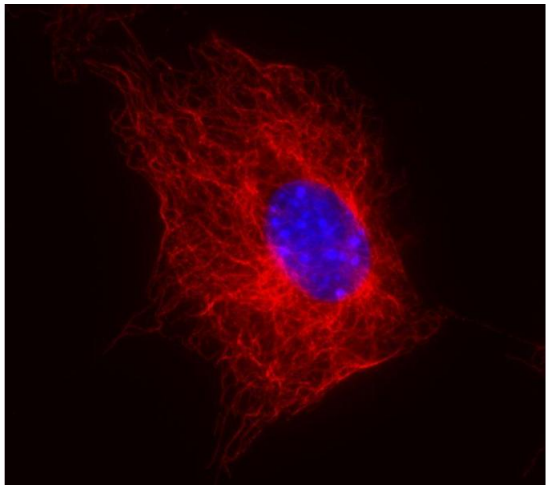


Western Blotting

Image 1. Anti-beta-Tubulin Purified (TU-06) works in WB application under reducing conditions on RIPA cell extracts. Western blotting analysis was performed on whole cell extracts (RIPA lysis buffer) of HeLa, HEK 293, ESS-1 and Jurkat cell lines mixed and heated (100 °C, 5 min) with reducing (2-mercaptoethanol) or non-reducing SDS-loading buffer. Samples were resolved using 12 % Tris-glycine SDS gel electrophoresis. Nitrocellulose membrane blot was probed simultaneously with mouse IgM monoclonal antibody TU-06 (1 µg/mL) and mouse IgG1 anti-GAPDH monoclonal antibody FF26A (1 µg/mL) used as the loading control. Subclass-specific secondary antibodies IRDye 680RD Goat-anti-Mouse IgM (red) and IRDye 800CW Goat-anti-Mouse IgG (green) were used for multiplex fluorescent Western blot detection. Alpha-tubulin was detected at ~50 kDa in all tested cell lines under reducing, but not under non-reducing conditions. Using RIPA lysis buffer in combination with non-reducing conditions is not suitable for Anti-beta-Tubulin Purified (TU-06).

Western Blotting

Image 2. Western Blotting analysis (reducing conditions) of HPB-ALL human peripheral blood leukemia cell line. Lane 1: negative control. Lane 2,3,4,5,6: immunostaining with anti-beta-tubulin (; dilution 0,5 µg/ml, 1 µg/ml, 2 µg/ml, 4 µg/ml, 5 µg/ml)



Immunofluorescence

Image 3. Immunofluorescence staining (mouse fibroblasts) Immunofluorescence staining of 3T3 mouse embryonal fibroblast cell line using anti-beta-tubulin (TU-06) (detection by Goat anti-mouse IgM Cy®5). Nucleus is stained with DAPI (blue).

Please check the product details page for more images. Overall 6 images are available for ABIN93914.