

Datasheet for ABIN93894
anti-alpha Tubulin antibody



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Overview

Quantity:	0.1 mg
Target:	alpha Tubulin (TUBA1)
Reactivity:	Human, Mouse, Rat, Pig, Dog, Nicotiana tabacum
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This alpha Tubulin antibody is un-conjugated
Application:	Western Blotting (WB), ELISA, Immunohistochemistry (Paraffin-embedded Sections) (IHC (p)), Immunoprecipitation (IP), Immunocytochemistry (ICC)

Product Details

Immunogen:	Porcine brain microtubule protein MTP-1.
Clone:	TU-16
Isotype:	IgM
Specificity:	The antibody TU-16 reacts with alpha-tubulin of all tested species, under denaturing and non-denaturing conditions.
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:	alpha Tubulin (TUBA1)
Alternative Name:	alpha-tubulin (TUBA1 Products)
Background:	<p>Tubulin alpha 1, 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 alpha-tubulin (relative molecular weight around 50 kDa) is globular protein that exists in cells as part of soluble alpha/beta-tubulin dimer or it is polymerized into microtubules. In different species it is coded by multiple tubulin genes that form tubulin classes (in human 6 genes). Expressed tubulin genes are named tubulin isotypes. Some of the tubulin isotypes are expressed ubiquitously, while some have more restricted tissue expression. Alpha-tubulin is also subject of numerous post-translational modifications. Tubulin isotypes and their posttranslational modifications are responsible for multiple tubulin charge variants - tubulin isoforms. Heterogeneity of alpha-tubulin is concentrated in C-terminal structural domain.,TUBA</p>
Gene ID:	7277
UniProt:	Q71U36
Pathways:	Microtubule Dynamics

Application Details

Application Notes:	Immunohistochemistry (paraffin sections): Recommended dilution: 10 µg/mL. Immunoprecipitation: Reducing conditions.
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Application Details

Western blotting: Recommended dilution: 1-2 µg/mL. This antibody can be used for Western blotting, but its alternative TU-02 (ABIN93896) gives better signal in this application.

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

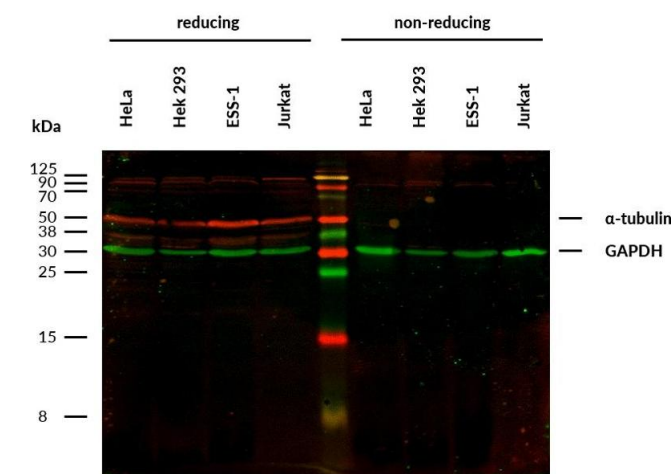
Storage Comment: Store at 2-8°C. Do not freeze.

Publications

Product cited in: Ji, Rath, Girton, Johansen, Johansen: "D-Hillarin, a novel W180-domain protein, affects cytokinesis through interaction with the septin family member Pnut." in: **Journal of neurobiology**, Vol. 64, Issue 2, pp. 157-69, (2005) ([PubMed](#)).

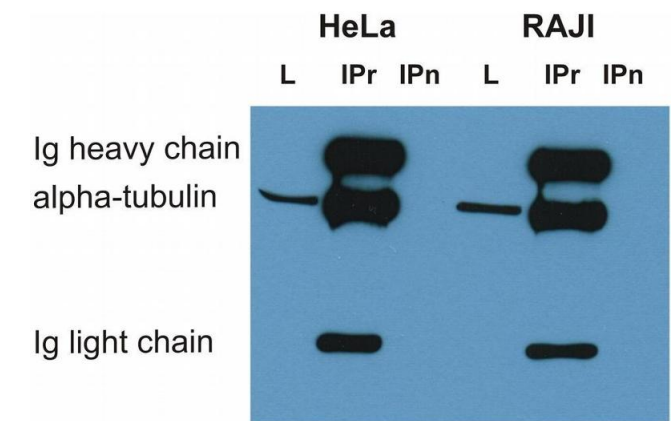
Qi, Rath, Wang, Xu, Ding, Zhang, Blacketer, Paddy, Girton, Johansen, Johansen: "Megator, an essential coiled-coil protein that localizes to the putative spindle matrix during mitosis in *Drosophila*." in: **Molecular biology of the cell**, Vol. 15, Issue 11, pp. 4854-65, (2004) ([PubMed](#)).

Dráberová, Dráber: "Novel monoclonal antibodies TU-08 and TU-16 specific for tubulin subunits." in: **Folia biologica**, Vol. 44, Issue 1, pp. 35-6, (2000) ([PubMed](#)).



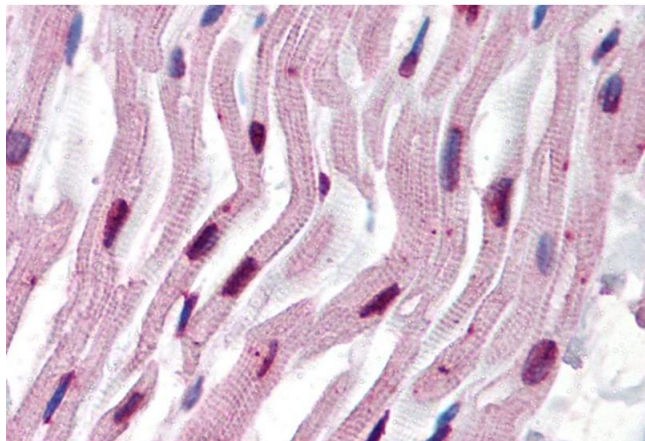
Western Blotting

Image 1. Anti-alpha-Tubulin Purified (TU-16) works in WB application under reducing conditions. 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-16 (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.



Immunoprecipitation

Image 2. Immunoprecipitation of alpha-tubulin from HeLa and RAJI cell lysate by antibody TU-16 and its detection by antibody. IgM heavy chain (76-92 kDa) and kDa. L = lysate IPr = immunoprecipitate (reducing conditions) IPn = immunoprecipitate (non-reducing conditions)



Immunohistochemistry (Paraffin-embedded Sections)

Image 3. Immunohistochemistry staining of human heart (paraffin sections) using anti-alpha tubulin (TU-16).

Please check the [product details page](#) for more images. Overall 6 images are available for ABIN93894.