

Datasheet for ABIN7505839
anti-alpha Tubulin antibody



[Go to Product page](#)

3 Images

Overview

Quantity:	0.1 mg
Target:	alpha Tubulin (TUBA1)
Reactivity:	Human, Mouse, Rat, Saccharomyces cerevisiae, Mammalian, Avian
Host:	Rat
Clonality:	Monoclonal
Conjugate:	This alpha Tubulin antibody is un-conjugated
Application:	Western Blotting (WB), ELISA, Immunohistochemistry (Paraffin-embedded Sections) (IHC (p)), Immunocytochemistry (ICC), Flow Cytometry (FACS), Immunohistochemistry (Frozen Sections) (IHC (fro))

Product Details

Purpose:	Anti-alpha-Tubulin Purified
Immunogen:	Yeast tubulin
Clone:	YOL1-34
Isotype:	IgG2a
Specificity:	The rat monoclonal antibody YOL1/34 recognizes an epitope of alpha-tubulin localized between amino acids 414-422. It has higher affinity for fixed microtubules than for native ones.
Purification:	Purified by protein-G affinity chromatography.

Target Details

Target:	alpha Tubulin (TUBA1)
---------	-----------------------

Target Details

Alternative Name: [alpha-Tubulin \(TUBA1 Products\)](#)

Background: 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 (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. 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

Gene ID: 7277

UniProt: [Q71U36](#)

Pathways: [Microtubule Dynamics](#)

Application Details

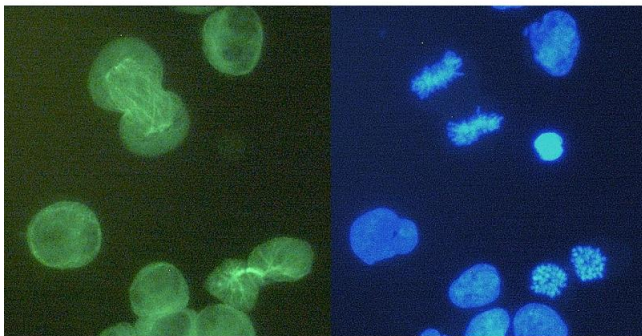
Application Notes: Immunocytochemistry: Recommended dilution 4-8 µg/mL.
Western blotting: Recommended dilution 1-2 µg/mL, reducing conditions.

Restrictions: For Research Use only

Handling

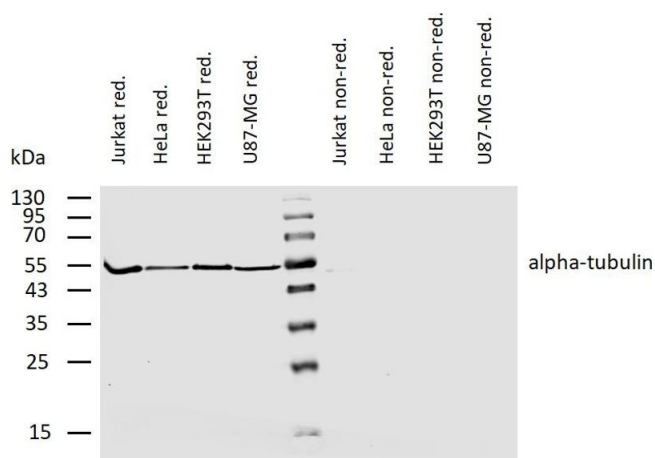
Concentration:	1 mg/mL
Buffer:	Phosphate buffered saline (PBS), pH 7.4, 15 mM sodium azide
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	4 °C
Storage Comment:	Store at 2-8°C. Do not freeze.

Images



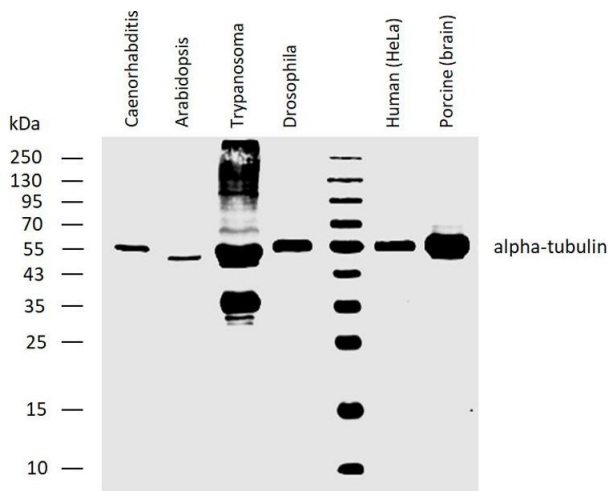
Immunocytochemistry

Image 1. Immunocytochemistry staining of alpha-tubulin in K562 cells using purified rat monoclonal antibody YOL1/34 (concentration in sample 6 µg/mL, DAR FITC, left picture) vs. Hoechst 34580 nuclear staining (right picture).



Western Blotting

Image 2. Western blotting analysis of human alpha-tubulin using rat monoclonal antibody YOL1/34 on lysates of various cell lines under reducing and non-reducing conditions. Nitrocellulose membrane was probed with 2 µg/mL of rat anti-alpha-tubulin monoclonal antibody followed by IRDye800-conjugated anti-rat secondary antibody. A specific band was detected for alpha-tubulin at approximately 54 kDa.



Western Blotting

Image 3. Western blotting analysis of human alpha-tubulin using rat monoclonal antibody YOL1/34 on lysates of *Caenorhabditis elegans*, *Arabidopsis thaliana*, *Trypanosoma brucei*, *Drosophila melanogaster*, human HeLa cell line, and porcine brain, all under reducing conditions. Each lane contains 20 μg of total protein. Nitrocellulose membrane was probed with 2 $\mu\text{g}/\text{mL}$ of rat anti-alpha-tubulin monoclonal antibody followed by IRDye800-conjugated anti-rat secondary antibody.