

Rabbit Tubulin alpha Polyclonal Antibody | anti-TUBA1A antibody

Tubulin alpha Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA321080	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

Tubulin alpha; Polyclonal Antibody; Tubulin alpha Antibody; Alpha tubulin 3; Alpha-tubulin 3; B alpha 1; FLJ25113; LIS3; TBA1A_HUMAN; TUBA1A; TUBA3; Tubulin alpha 1a; Tubulin alpha 1A chain; Tubulin alpha 3; Tubulin alpha 3 chain; Tubulin alpha brain specific; Tubulin alpha-1A chain; Tubulin alpha-3 chain; Tubulin B alpha 1; Tubulin B-alpha-1; Alpha tubulin ubiquitous; Alpha-tubulin ubiquitous; K alpha 1; TBA1B_HUMAN; TUBA1B; Tubulin alpha 1B; Tubulin alpha 1B chain; Tubulin alpha ubiquitous; Tubulin alpha ubiquitous chain; Tubulin alpha-1B chain; Tubulin alpha-ubiquitous chain; Tubulin K alpha 1; Tubulin K-alpha-1; anti-TUBA1A antibody

PRODUCT SPECIFICATIONS

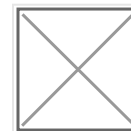
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	Tubulin alpha antibody detects endogenous levels of Tubulin alpha
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	451
Applicable Applications for anti-TUBA1A antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human Tubulin alpha
Subcellular Location	Cytoplasm, Cytoskeleton.
Tissue Specificity	Expressed at a high level in fetal brain.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IF (Immunofluorescence)

Tubulin alpha staining Human fetal heart cells by ICC/IF. Cells were fixed with PFA and permeabilized in 0.1% saponin prior to blocking in 10% serum for 45 minutes at 37 degree C. The primary antibody was diluted 1/400 and incubated with the sample for 1 hour at 37 degree C. A Alexa Fluor 594 conjugated goat polyclonal to rabbit IgG (H+L), diluted 1/600 was used as secondary antibody.



WB (Western Blot)

Western blot analysis on NIH-3T3 cell lysate using Tubulin alpha Antibody, The lane on the left is treated with the antigen-specific peptide.



IHC (Immunohistochemistry)

AAA321080 at 1/100 staining human lymph node tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



IF (Immunofluorescence)

AAA321080 staining NIH-3T3 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.

ADDITIONAL INFORMATION

Related Product Information for anti-TUBA1A antibody

Function: 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.

Subunit Structure: Dimer of alpha and beta chains. A typical microtubule is a hollow water-filled tube with an outer diameter of 25 nm and an inner diameter of 15 nM. Alpha-beta heterodimers associate head-to-tail to form protofilaments running lengthwise along the microtubule wall with the beta-tubulin subunit facing the microtubule plus end conferring a structural polarity. Microtubules usually have 13 protofilaments but different protofilament numbers can be found in some organisms and specialized cells. Interacts with SETD2; the interaction is independent on alpha-tubulin acetylation on Lys-40.

Post-translational Modifications: Some glutamate residues at the C-terminus are polyglutamylated, resulting in polyglutamate chains on the gamma-carboxyl group (PubMed:26875866). Polyglutamylation plays a key role in microtubule severing by spastin (SPAST). SPAST preferentially recognizes and acts on microtubules decorated with short polyglutamate tails: severing activity by SPAST increases as the number of glutamates per tubulin rises from one to eight, but decreases beyond this glutamylation threshold (PubMed:26875866). Some glutamate residues at the C-terminus are monoglycylated but not polyglycylated due to the absence of functional TTLL10 in human. Monoglycylation is mainly limited to tubulin incorporated into axonemes (cilia and flagella). Both polyglutamylation and monoglycylation can coexist on the same protein on adjacent residues, and lowering glycylation levels increases polyglutamylation, and reciprocally. The precise function of monoglycylation is still unclear (Probable). Acetylation of alpha chains at Lys-40 is located inside the microtubule lumen. This modification has been correlated with increased microtubule stability, intracellular transport and ciliary assembly. Methylation of alpha chains at Lys-40 is found in mitotic microtubules and is required for normal mitosis and cytokinesis contributing to genomic stability. Nitration of Tyr-451 is irreversible and interferes with normal dynein intracellular distribution. Undergoes a tyrosination/detyrosination cycle, the cyclic removal and re-addition of a C-terminal tyrosine residue by the enzymes tubulin tyrosine carboxypeptidase (TTCP) and tubulin tyrosine ligase (TTL), respectively. Tubulin alpha-1A chain: Tyrosination promotes microtubule interaction with CAP-Gly domain-containing proteins such as CLIP1, CLIP2 and DCTN1. Tyrosination regulates the initiation of dynein-dynactin motility via interaction with DCTN1, which brings the dynein-dynactin complex into contact with microtubules (PubMed:26972003, PubMed:26968983). In neurons, tyrosinated tubulins mediate the initiation of retrograde vesicle transport (PubMed:26968983). Detyrosinated tubulin alpha-1A chain: Detyrosination is involved in metaphase plate congression by guiding chromosomes during mitosis: detyrosination promotes interaction with CENPE, promoting pole-proximal transport of chromosomes toward the equator (PubMed:25908662). Detyrosination increases microtubules-dependent mechanotransduction in dystrophic cardiac and skeletal muscle. In cardiomyocytes, detyrosinated microtubules are required to resist to contractile compression during contraction: detyrosination promotes association with desmin (DES) at force-generating sarcomeres, leading to buckled microtubules and mechanical resistance to contraction (By similarity). Similarity: Belongs to the tubulin family.

References

Qiu P, Dong Y, Li B, Kang XJ, Gu C, Zhu T, Luo YY, Pang MX, Du WF, Ge WH; Journal: Toxicol Lett. Dihydropyrimidin modulates p62 and autophagy crosstalk with the Keap-1/Nrf2 pathway to alleviate ethanol-induced hepatic injury.

NCBI AND UNIPROT INFORMATION

NCBI GI #	393715091
NCBI GeneID	7846
NCBI Accession #	NP_001257328.1
NCBI GenBank Nucleotide #	NM_001270399.1
UniProt Accession #	Q71U36; P04687; P05209; A8K0B8; G3V1U9

Molecular Weight	Observed: 50 kDa Predicted: 51 kDa
NCBI Official Full Name	tubulin alpha-1A chain isoform 1
NCBI Official Synonym Full Names	tubulin alpha 1a
NCBI Official Symbol	TUBA1A
NCBI Official Synonym Symbols	LIS3; TUBA3; B-ALPHA-1
NCBI Protein Information	tubulin alpha-1A chain
UniProt Protein Name	Tubulin alpha-1A chain
UniProt Gene Name	TUBA1A
UniProt Synonym Gene Names	TUBA3

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/tubulin-alpha-antibody-immunocytochemistry-immunofluorescence-immunohistochemistry-western-blot-elisa/321080>