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alpha-Tubulin Antibody

Catalog # ASC12054

Product Information

Application	WB, IHC-P, IF, E
Primary Accession	Q71U36
Other Accession	37492, CAA25855, 7846
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	50136
Application Notes	alpha-Tubulin antibody can be used for detection of alpha-Tubulin by Western blot at 1 - 2 g/ml. Antibody can also be used for Immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	7846
Other Names	Tubulin alpha-1A, TUBA1A, TUBA3, LIS3
Precautions	alpha-Tubulin Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TUBA1A
Synonyms	TUBA3
Function	Tubulin is the major constituent of microtubules, a cylinder consisting of laterally associated linear protofilaments composed of alpha- and beta-tubulin heterodimers. Microtubules grow by the addition of GTP-tubulin dimers to the microtubule end, where a stabilizing cap forms. Below the cap, tubulin dimers are in GDP-bound state, owing to GTPase activity of alpha-tubulin.
Cellular Location	Cytoplasm, cytoskeleton. Cytoplasm, cytoskeleton, flagellum axoneme {ECO:0000250|UniProtKB:P68369}
Tissue Location	Expressed at a high level in fetal brain.

Background

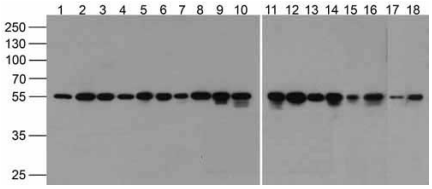
alpha-Tubulin belongs to the tubulin superfamily, which is composed of six distinct families. Along with

beta-tubulins, alpha-Tubulins are the major components of microtubules. These microtubules are involved in a wide variety of cellular activities ranging from mitosis and transport events to cell movement and the maintenance of cell shape. Alpha- and beta-tubulin dimers are assembled to 13 protofilaments that form a microtubule of 22-nm diameter (reviewed in 1). Tyrosine ligase adds a C-terminal tyrosine to monomeric alpha-Tubulin. Assembled microtubules can again be detyrosinated by a cytoskeleton-associated carboxypeptidase (2). Another post-translational modification of detyrosinated alpha-Tubulin is C-terminal polyglutamylation, which is characteristic of microtubules in neuronal cells and the mitotic spindle (3). Like GAPDH and ?-Actin, this antibody makes an excellent loading control in immunoblots.

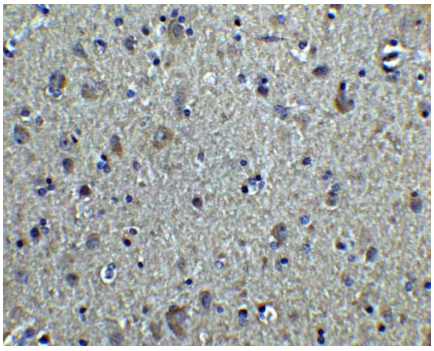
References

McKean PG, Vaughan S, and Gull K. The extended tubulin family. J. Cell Sci. 2001; 114:2723-33.;Barra HA, Arce CA, and Argarana CE. Posttranslational tyrosination/detyrosination of tubulin. Mol. Neurobiol. 1988; 2:133-53.;Fukshima N, Furuta D, Hidaka Y, et al. Post-translational modifcations of tubulin in the nervous system. J. Neurochem. 2009; 109:683-693.;

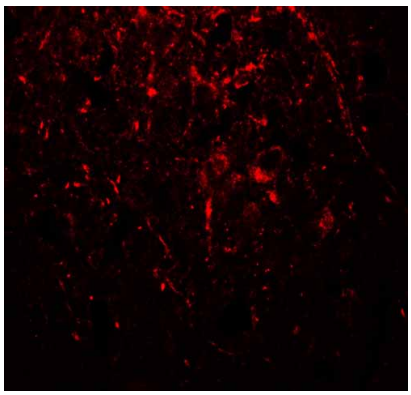
Images



Western blot analysis of alpha-Tubulin in 293, Daudi, Hela, HepG2, Jurkat, K562, NH3T3, Raji, Ramos, U937, Human brain, Mouse brain, Rat Brain, Rabbit Brain, Rabbit Spleen, Zebrafish, Mouse Liver and Chicken liver lysate at 1 µg/mL.



Immunohistochemistry of alpha-Tubulin in human brain tissue with alpha-Tubulin antibody at 2.5 µg/ml.



Immunofluorescence of alpha-Tubulin in human brain tissue with alpha-Tubulin antibody at 20 µg/mL.

Immunohistochemistry of alpha-Tubulin in human brain tissue with alpha-Tubulin antibody at 5 µg/mL.