Revision 4

Store at -20C

#12152

Acetyl-α-Tubulin (Lys40) (6-11B-1) Mouse mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IF-F, IF-IC	H R	Endogenous	52	Mouse IgG2b	#P68363	10376

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50
Immunofluorescence (Frozen)	1:800
Immunofluorescence (Immunocytochemistry)	1:800

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Acetyl-α-Tubulin (Lys40) (6-11B-1) Mouse mAb recognizes endogenous levels of α-tubulin protein only when acetylated at Lys40.

Species predicted to react based on 100% sequence homology

Mouse

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic acetylpeptide corresponding to residues surrounding Lys40 of human α-tubulin protein.

Background

The cytoskeleton consists of three types of cytosolic fibers: microtubules, microfilaments (actin filaments), and intermediate filaments. Globular tubulin subunits comprise the microtubule building block, with α/β-tubulin heterodimers forming the tubulin subunit common to all eukaryotic cells. γ-tubulin is required to nucleate polymerization of tubulin subunits to form microtubule polymers. Many cell movements are mediated by microtubule action, including the beating of cilia and flagella, cytoplasmic transport of membrane vesicles, chromosome alignment during meiosis/mitosis, and nerve-cell axon migration. These movements result from competitive microtubule polymerization and depolymerization or through the actions of microtubule motor proteins (1).
The Elongator complex catalytic subunit (Elp3) acetylates α-tubulin at Lys40, while the histone deacetylase HDAC6 functions as a tubulin deacetylase. This post-translational modification may be required for dynamic cell shape remodeling, cell motility, tubulin stability, and terminal branching of cortical neurons (2,3).

Background References

1. Westermann, S. and Weber, K. (2003) *Nat Rev Mol Cell Biol* 4, 938-47.
2. Creppe, C. et al. (2009) *Cell* 136, 551-64.
3. Hubbert, C. et al. (2002) *Nature* 417, 455-8.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **IF-F:** Immunofluorescence (Frozen) **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **R:** Rat

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