

#5335 Store at -20C

## Acetyl- $\alpha$ -Tubulin (Lys40) (D20G3) XP® Rabbit mAb



**Cell Signaling**  
TECHNOLOGY®

**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP, IF-F, IF-IC, FC-FP	H M R Mk Z	Endogenous	52	Rabbit IgG	#P68363	10376

### Product Usage Information

#### Application

Western Blotting  
Immunoprecipitation  
Immunofluorescence (Frozen)  
Immunofluorescence (Immunocytochemistry)  
Flow Cytometry (Fixed/Permeabilized)

#### Dilution

1:1000  
1:50  
1:800 - 1:1600  
1:800 - 1:1600  
1:200 - 1:800

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at  $-20^{\circ}\text{C}$ . Do not aliquot the antibody.

### Specificity / Sensitivity

Acetyl- $\alpha$ -Tubulin (Lys40) (D20G3) XP® Rabbit mAb detects endogenous levels of  $\alpha$ -tubulin only when acetylated at Lys40. This amino acid is not conserved in  $\beta$ -tubulin.

### Species predicted to react based on 100% sequence homology:

Xenopus

### Source / Purification

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

### 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  $\alpha/\beta$ -tubulin heterodimers forming the tubulin subunit common to all eukaryotic cells.  $\gamma$ -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  $\alpha$ -tubulin at Lys40 while the histone deacetylase HDAC6 functions as a tubulin deacetylase. This post-transcriptional 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, 551-564.
3. Hubbert, C. et al. (2002) *Nature* 417, 455-458.

### 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 BSA, 1X TBS, 0.1% Tween® 20 at  $4^{\circ}\text{C}$  with gentle shaking, overnight.

### Applications Key

**WB:** Western Blotting **IP:** Immunoprecipitation **IF-F:** Immunofluorescence (Frozen)  
**IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

### Cross-Reactivity Key

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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