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 necessary 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-transcriptional modification may be required for dynamic cell shape remodeling, cell motility, tubulin stability and terminal branching of cortical neurons (2-3).

Specificity/Sensitivity: Acetyl-α-Tubulin (Lys40) Antibody detects endogenous levels of tubulin only when acetylated at Lys40. This amino acid is not conserved in β-tubulin.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Lys40 of human α-tubulin. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

Recommended Antibody Dilutions:
Western blotting 1:1000
For application specific protocols please see the web page for this product at www.cellsignal.com.
Please visit www.cellsignal.com for a complete listing of recommended companion products.