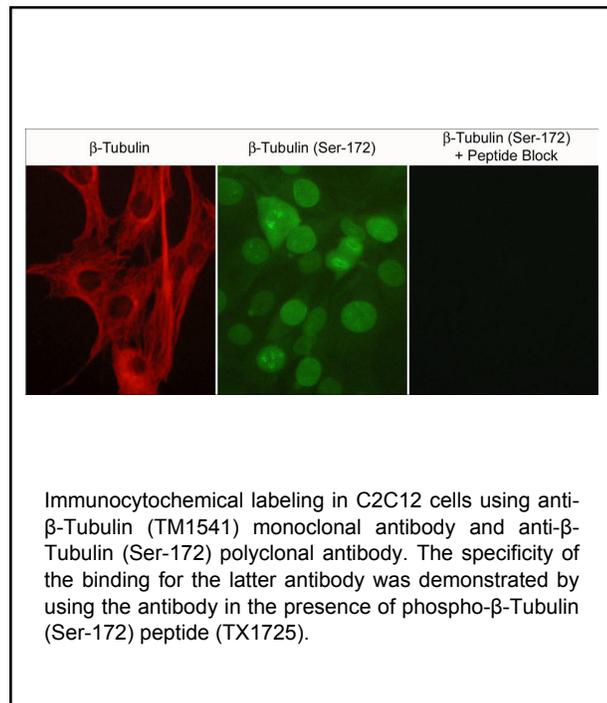


Background

Microtubules (MTs) are cytoskeletal elements that play an essential role in cell division and cytoplasmic organization. MTs are dynamic polymers of α/β -Tubulin heterodimers. At least two populations of MTs, called dynamic and stable according to their rates of turnover, are readily distinguishable in cells. The proteins associated with MTs (MAPs) are among the best-known factors that regulate MT dynamics and stability. In addition, a variety of different post-translational modifications may also regulate MT dynamics and stability. Phosphorylation is one of these modifications and it can occur on serine, threonine, and tyrosine residues in β -Tubulin isoforms. Multiple kinases can phosphorylate Ser-444 at the C-terminus of β III-Tubulin in vitro. Unphosphorylated Ser-444 in β III-Tubulin is an early marker for cells of neuronal lineage, while phosphorylation of Ser-444 is upregulated after neuronal maturation and may preferentially occur in assembled MTs. By contrast, Cdk1 phosphorylation of Ser-172 in β -Tubulin occurs in mitotic cells and may impair tubulin incorporation into microtubules.

Background References

- Diaz-Nido, J. et al. (1990) *J Biol. Chem.* 265(23):13949.
Fanarraga, M.L. et al. (1999) *Eur. J. Neurosci.* 11:517.
Westermann, S. & Weber, K. (2003) *Nat. Rev. Mol. Cell. Biol.* 4:938.

**Applications**

Blocking 1:1000
ELISA 50 ng/well

End user should determine optimal dilution for their particular applications and experiments.
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

Specificity

The peptide is specifically recognized by β -Tubulin (Ser-172) phospho-specific antibody (TP1721) in ELISA, and has been shown to block the reactivity of TP1721 in Western blot and immunocytochemistry.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

Peptide Sequence

Phospho- β III-Tubulin (Ser-172) synthetic peptide contains amino acid residues around serine 172 of human β III-Tubulin. This sequence is identical to similar regions in β I, β II, and β III-Tubulin isotypes, and is well conserved in tubulins from most eukaryotic species.

Buffer and Storage

Blocking Peptide is supplied in 50 μ l phosphate-buffered saline and 0.05% sodium azide. Store at -20°C . Stable for 1 year.

Related Products

- TP1781 β -Tubulin (a.a. 168-177) Rabbit Polyclonal
TP1721 β -Tubulin (Ser-172), phospho-specific Rabbit Polyclonal
TX1785 β -Tubulin (a.a. 168-177) Blocking Peptide

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