βIII-Tubulin (C-terminus)

Cat. #	TP1691
Host	Rabbit Polyclonal
Size	100 µl

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 βIII-tubulin *in vitro*. Unphosphorylated Ser-444 in βIII-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.

References

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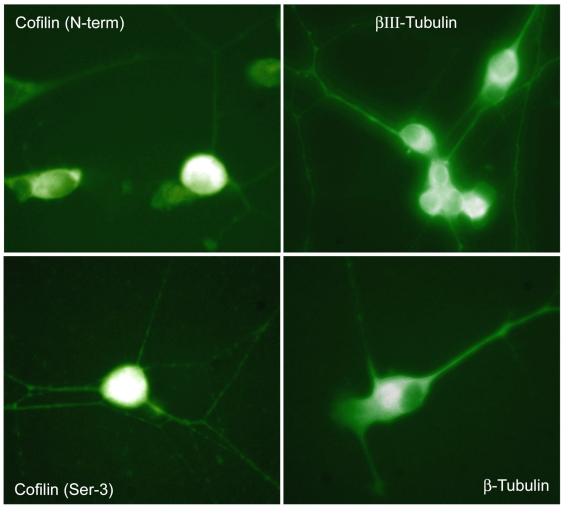
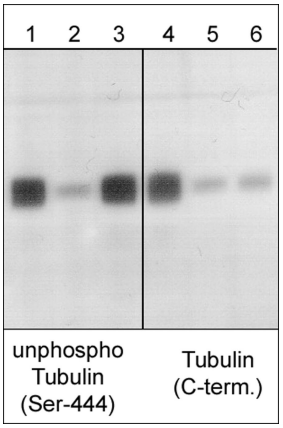
Fanarraga, M.L. et al. (1999) Eur. J. Neurosci. 11:517.
Diaz-Nido, J. et al. (1990) J Biol. Chem. 265(23):13949.



Immunocytochemical labeling in chick dorsal root ganglion neurons using anti-Cofilin (N-terminus; CP1131), anti-Cofilin (Ser-3; CP1151), anti-βIII-Tubulin (C-terminus; TP1691) and anti-β-Tubulin (TM1541) antibodies. (Images provided by Dr. Diane Snow, Department of Anatomy & Neurobiology, University of Kentucky).



Western blot analysis of mouse brain. The blot was probed with anti-unphosphorylated βIII-Tubulin (Ser-444) (lanes 1-3) and anti-βIII-Tubulin (C-terminus) (lanes 4-6) polyclonal antibodies. Both antibodies were used in the presence of unphosphorylated βIII-Tublin (Ser-444) peptide (lanes 2 & 5; TX1815) and phospho-βIII-Tublin (Ser-444) peptide (lanes 3 & 6; TX1695).

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Rev

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Host	Rabbit Polyclonal
Size	100 µl

Immunogen:

βIII-Tubulin synthetic peptide (coupled to KLH) corresponding to amino acid residues at the C-terminus of human βIII-tubulin. This sequence is not found in βI or βII-tubulin isotypes, but is well conserved in βIII-tubulins from rat and mouse.

Buffer and Storage:

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at –20°C. Do not aliquot. Stable for 1 year.

Applications:

WB	1:2,000	IHC	1:500
ICC	1:200		
ELISA	1:2,000		

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 1hour at room temperature.

Specificity:

This antibody was affinity purified using βIII-Tubulin (C-terminus) peptide (without carrier). The antibody detects a 50 kDa* protein corresponding to the molecular mass of βIII-Tubulin on SDS-PAGE immunoblots of purified brain tubulin and mouse brain tissue.

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

Related Products:

TM1541 β-Tubulin Mouse Monoclonal
TP1781 β-Tubulin (a.a. 168-177) Rabbit Polyclonal
TP1721 β-Tubulin (Ser-172), phospho-specific Rabbit Polyclonal
TP1811 unphosphorylated βIII-Tubulin (Ser-444) Rabbit Polyclonal

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