

phospho-CRMP2 (Ser-522) Peptide

Cat. # CX2195

Size 50 µg

Background:

CRMP2 (CRMP-62, TOAD-64, DRP-2) is a microtubule associated protein involved in neuron development and axon pathfinding. CRMP2 binds to tubulin heterodimers and promotes microtubule assembly. The overexpression of CRMP2 facilitates the rate of axonal growth, whereas the mutated form that lacks activity toward the microtubule assembly inhibits axonal growth in a dominant negative manner. Phosphorylation of CRMP2 regulates its activity and this type of regulation has been implicated in axon growth cone collapse induced by several repulsive cues. Cdk5 and GSK3 phosphorylation occurs downstream of the repulsive cue, Sema-3A. Several residues in CRMP2 are phosphorylated by GSK3 (Ser-518, Thr-514, and Thr-509), and a priming site (Ser-522). These sites are conserved in human CRMP1 and CRMP4, but not in CRMP3 or CRMP5. The priming site is also phosphorylated by Cdk5. In contrast, ROCK phosphorylates Thr-555 leading to LPA, MAG, or Ephrin-A5 mediated growth cone collapse. Thus, CRMP2 phosphorylation status may be a critical element of pathways that control axon pathfinding.

References

Arimura, N. et al. (2000) J. Biol. Chem. 275(31):23973
Arimura, N. et al. (2005) Mol. Cell. Biol. 25(22):9973.
Uchida, Y. et al. (2005) Genes to Cells 10:165.
Cole, A.R. et al. (2006) J. Biol. Chem. 281(24):16591.

Peptide Sequence:

Phospho-CRMP2 (Ser-522) synthetic peptide corresponding to amino acids surrounding Ser-522 in human CRMP2. This sequence is conserved in rat and mouse CRMP2, and has homology to the conserved site in CRMP1 and CRMP4, but is not conserved in CRMP3 and CRMP5.

Buffer and Storage:

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

Applications:

Blocking 1:1000

ELISA 50 ng/well

End user should determine optimal concentration dependent on the concentration of the antibody.
Recommended for blocking antibody reactivity in Western blot and immunocytochemistry.
ELISA established in 96-well Nunc immunoplates where peptide was bound to plates for 2 hrs in 0.1 M sodium carbonate buffer, pH 8.5.

Specificity:

This peptide is specifically recognized by CRMP2 (Ser-522) antibody (CP2191) in ELISA, and has been shown to block the reactivity of CP2191 in Western blot and is recommended for blocking in immunocytochemistry.

Related Products:

CP2191 CRMP2 (Ser-522), phospho-specific Rabbit Polyclonal
CP2161 CRMP2 (C-terminal Region) Rabbit Polyclonal
CX2165 CRMP2 (C-terminal Region) Peptide
CP2251 CRMP2 (Thr-555), phospho-specific Rabbit Polyclonal
CX2255 phospho-CRMP2 (Thr-555) Peptide

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