

# CRMP2 (Thr-555), phospho-specific

Cat. # CP2251

Host Rabbit Polyclonal

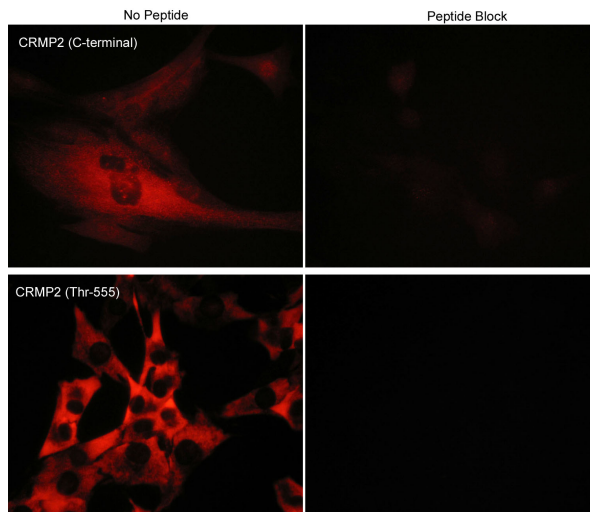
Size 100 µl

## Background:

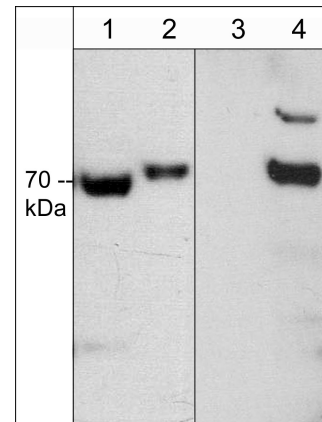
CRMP2 (CRMP-62, TOAD-64, DRP-2) is a microtubule associated protein involved in neuron development and axon pathfinding. CRMP2 binds to tubulin heterodimers and promotes microtubule assembly. The overexpression of CRMP2 facilitates the rate of axonal growth, whereas the mutated form that lacks activity 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.  
 Mimura, F. et al. (2006) J. Biol. Chem. 281(23):15970.



Immunocytochemical labeling of phosphorylated CRMP2 in mouse C2C12 cells. The cells were probed with CRMP2 (C-terminal region) and CRMP2 (Thr-555) rabbit polyclonal antibodies, then the antibodies were detected using appropriate secondary antibodies conjugated to Cy3. The antibodies were used in the absence (left) or presence (right) of their respective blocking peptide (CX2165 or CX2255).



Western blot of rat PC12 cells untreated (lanes 1 & 3) or treated with calyculin A (lanes 2 & 4). The blot was probed with anti-CRMP2 (C-terminal Region) antibody (lanes 1 & 2) or anti-CRMP2 (Thr-555) antibody (lanes 3 & 4).

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# CRMP2 (Thr-555), phospho-specific

**Cat. #** CP2251  
**Host** Rabbit Polyclonal  
**Size** 100 µl

## **Immunogen:**

Phospho-CRMP2 (Thr-555) synthetic peptide (coupled to carrier protein) corresponding to amino acids surrounding Thr-555 in human CRMP2. This sequence is conserved in rat and mouse CRMP2 and the phospho-site is not conserved in other CRMP family members.

## **Buffer and Storage:**

Rabbit polyclonal, affinity-purified antibody is supplied in 100 µl 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 1:1000  
ELISA 1:2000  
ICC 1:200

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 cross-adsorbed to unphosphorylated CRMP2 (Thr-555) before affinity purification using phospho-CRMP2 (Thr-555) peptide (without carrier). The antibody detects a 70 kDa\* protein corresponding to CRMP2 on immunoblots of rat PC12 or mouse C2C12 cells treated with calyculin A. This reactivity can be specifically blocked using phospho-CRMP2 (Thr-555) peptide (CX2255).

\*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:**

CP2161 CRMP2 (C-terminal Region) Rabbit Polyclonal  
CP2191 CRMP2 (Ser-522), phospho-specific Rabbit Polyclonal  
CX2255 phospho-CRMP2 (Thr-555) Peptide  
RM2721 ROCK-I Mouse Monoclonal  
RM2761 ROCK-II (Central region) Mouse Monoclonal  
CK6200 CRMP2 Phospho-Regulation Antibody Sampler Kit

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