

**Anti-CRMP2 (Ser-522), Phosphospecific Antibody**  
Catalog # AN1732**Specification****Anti-CRMP2 (Ser-522), Phosphospecific Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">Q16555</a>
Reactivity	Bovine
Host	Rabbit
Clonality	Rabbit Polyclonal
Isotype	IgG
Calculated MW	62294

**Anti-CRMP2 (Ser-522), Phosphospecific Antibody - Additional Information**

Gene ID	1808
<b>Other Names</b>	
DRP-2, Toad-64, CRMP-62	

**Target/Specificity**

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.

**Format**

Antigen Affinity Purified

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

Anti-CRMP2 (Ser-522), Phosphospecific Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Shipping**

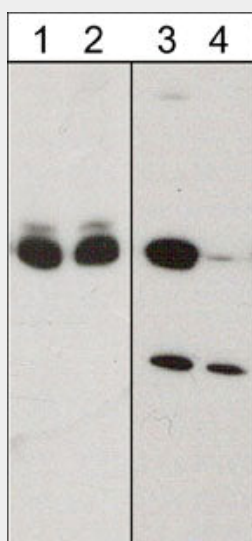
Blue Ice

**Anti-CRMP2 (Ser-522), Phosphospecific Antibody - Protocols**

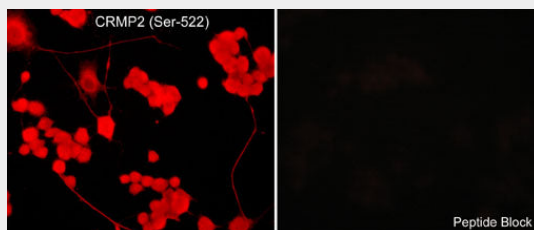
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### Anti-CRMP2 (Ser-522), Phosphospecific Antibody - Images



Western blot image of mouse brain untreated (lanes 1 & 3) or treated with lambda phosphatase (lanes 2 & 4). The blot was probed with anti-CRMP2 (C-terminal Region) (lanes 1 & 2) or anti-CRMP2 (Ser-522) (lanes 3 & 4).



Immunocytochemical labeling of CRMP2 phosphorylation in aldehyde-fixed and NP-40-permeabilized NGF-differentiated PC12 cells. The cells were labeled with rabbit polyclonal anti-CRMP2 (Ser-522) (CP2191) antibody in the absence (Left) or presence (Right) of blocking peptide (CX2195). The antibody was detected using appropriate secondary antibody conjugated to DyLight® 594.

#### Anti-CRMP2 (Ser-522), Phosphospecific Antibody - 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.