

# Anti-CRMP2 (Thr-555), Phosphospecific Antibody

Catalog # AN1734

## **Specification**

## Anti-CRMP2 (Thr-555), Phosphospecific Antibody - Product Information

Primary Accession
Reactivity
Bovine
Host
Mouse

Clonality Mouse Monoclonal

Isotype IgG1
Calculated MW 62294

### Anti-CRMP2 (Thr-555), Phosphospecific Antibody - Additional Information

Gene ID 1808

**Other Names** 

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 (Thr-555), Phosphospecific Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

#### Shipping

Blue Ice

#### Anti-CRMP2 (Thr-555), Phosphospecific Antibody - Protocols

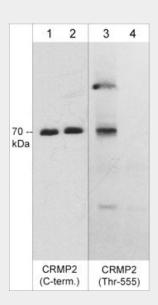




Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- <u>Immunohistochemistry</u>
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

# Anti-CRMP2 (Thr-555), Phosphospecific Antibody - Images



Western blot of rat PC12 cells stimulated with calyculin A (100 nM) for 30 min (lanes 1-4). Then the blot was treated with lambda phosphatase to dephosphorylate CRMP2 (lanes 2 & 4). The blot was probed with rabbit polyclonal anti-CRMP2 (C-terminal Region) antibody (lanes 1 & 2) or mouse monoclonal anti-CRMP2 (Thr-555) antibody (lanes 3 & 4).

### Anti-CRMP2 (Thr-555), 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.