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Anti-CRMP2 (C-terminal region) Antibody

Catalog # AN1731

Specification

Anti-CRMP2 (C-terminal region) Antibody - Product Information

Application	**WB, IHC**
Primary Accession	Q16555
Reactivity	**Bovine**
Host	**Rabbit**
Clonality	**Rabbit Polyclonal**
Isotype	**IgG**
Calculated MW	**62294**

Anti-CRMP2 (C-terminal region) 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.

Dilution
WB~~1:1000
IHC~~1:100~500

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 (C-terminal region) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Shipping
Blue Ice

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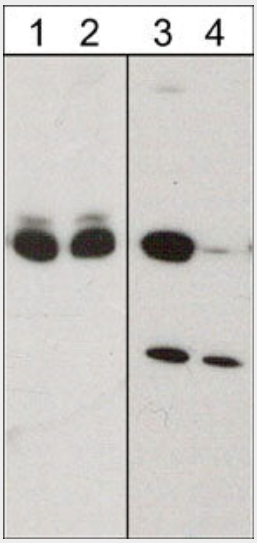
Anti-CRMP2 (C-terminal region) Antibody - Protocols

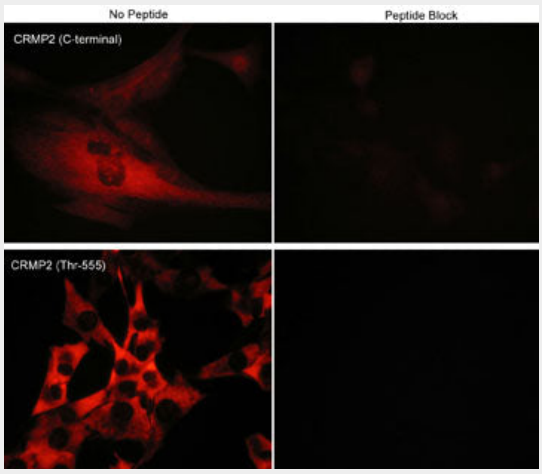
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-CRMP2 (C-terminal region) 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 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).

Anti-CRMP2 (C-terminal region) 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.