

#9393 Store at -20°C

CRMP-2 Antibody


Cell Signaling
TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IF-IC	H M R	Endogenous	60-80	Rabbit	#Q16555	1808

Product Usage Information

Application

Western Blotting
Immunofluorescence (Immunocytochemistry)

Dilution

1:1000
1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

CRMP-2 Antibody detects endogenous levels of total CRMP-2 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide of human CRMP-2. Antibodies are purified by peptide affinity chromatography.

Background

Collapsin Response Mediator Protein-2 (CRMP-2) is expressed at high levels in the developing nervous system and plays a critical role in axonal outgrowth by specifying axon/dendrite fate and establishing neuronal polarity (1,2). CRMP-2 enhances axon elongation and branching by binding to tubulin heterodimers to promote microtubule assembly (3). GSK-3β inactivates CRMP-2 by phosphorylating it at Thr514. CRMP-2 is primed following phosphorylation at Ser522 by CDK5 and at Thr518 by GSK-3β (2). Phosphorylation of CRMP-2, which decreases tubulin binding ability, can be inhibited by NT-3 and BDNF through the PI3 kinase/Akt pathway (2). CRMP-2 also mediates semaphorin-induced growth cone collapse (4). Hyperphosphorylation of CRMP-2 is found in Alzheimer disease plaques with concurrent elevated GSK-3β activity in these patients (5).

Background References

- Gu, Y. and Ihara, Y. (2000) *J Biol Chem* 275, 17917-20.
- Yoshimura, T. et al. (2005) *Cell* 120, 137-49.
- Fukata, Y. et al. (2002) *Nat Cell Biol* 4, 583-91.
- Goshima, Y. et al. (1995) *Nature* 376, 509-14.
- Cole, A.R. et al. (2004) *J Biol Chem* 279, 50176-80.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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