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Product Information

Anti-CRMP2

produced in rabbit, affinity isolated antibody

Catalog Number **C2993**

Product Description

Anti-CRMP2 is produced in rabbit using as immunogen, a synthetic peptide corresponding to amino acids 476-493 located near the C-terminus of human CRMP2 (GeneID: 1808, Dihydropyrimidinase-related protein 2), conjugated to KLH. This sequence is identical in mouse and rat CRMP2. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-CRMP2 specifically recognizes human, rat and mouse CRMP2 by immunoblotting (~62 kDa). Staining of the CRMP2 band in immunoblotting is specifically inhibited by the immunizing peptide.

CRMPs, **collapsin response mediator proteins** (also known as DRP, DPYSL, TOAD-64, and ULIP) consist of a family of cytosolic phosphoproteins expressed in the nervous system and involved in neuronal differentiation and axonal guidance.¹⁻³ CRMPs are thought to be a part of the collapsin/semaphorin signal transduction pathway implicated in semaphorin-induced growth cone collapse during neural development.³ In addition, members of the CRMP family are critical to semaphorin 3A function.⁴ They share sequence similarity (~60% identity) with the enzyme dihydropyrimidinase (DHPase). CRMP1, CRMP2 (DRP2, DPYSL2, ULIP2, TOAD64), CRMP3, and CRMP4 family members are highly homologous (~75% identity). CRMP5/CRAM shares a 50% identity with other CRMPs. CRMPs also share homology with *unc-33* gene required for directional axon growth. They localize to the lamellipodia and filopodia of axonal growth cones, suggesting a role in axon guidance. CRMP2 is upregulated during development, and appears to be crucial for axon outgrowth. GSK-3 β phosphorylates and inactivates CRMP-2 downstream of the PI3K/Akt pathway, thus regulating neuronal polarity.⁵ CRMP2 interacts with tubulin dimers, kinesin-1 and WAVE1 complex to regulate axon outgrowth.^{6,7}

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.5 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month.

For extended storage, freeze in working aliquots.

Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 0.1-0.2 μ g/mL is recommended using HeLa whole cell lysate and mouse brain extract (S1 fraction).

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

1. Goshima, Y., et al., *Nature*, **376**, 509-514 (1995).
2. Wang, S.L, and Strittmatter, S.M. *J. Neurosci.*, **16**, 6197-6207 (1996).
3. Nakamura, F., et al., *J. Neurobiol.*, **44**, 219-229 (2000).
4. Deo, R.C., et al., *EMBO J.*, **23**, 9-22 (2004).
5. Yoshimura, T., et al., *Cell*, **120**, 137-149 (2005).
6. Fukata, Y., et al., *Nat. Cell Biol.*, **4**, 583-591 (2002).
7. Kawano, Y., et al., *Mol. Cell Biol.*, **25**, 9920-9935 (2005).

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