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CRMP1 Antibody

Catalog # ASC10831

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q14194
Other Accession	AAH07613, 14043246
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	62184
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	CRMP1 antibody can be used for the detection of CRMP1 by Western blot at 1 - 2 μg/mL. Antibody can also be used for immunohistochemistry starting at 2.5 μg/mL. For immunofluorescence start at 5 μg/mL.

Additional Information

Gene ID	1400
Other Names	Dihydropyrimidinase-related protein 1, DRP-1, Collapsin response mediator protein 1, CRMP-1, Unc-33-like phosphoprotein 3, ULIP-3, CRMP1, DPYSL1, ULIP3
Target/Specificity	CRMP1; This antibody is expected to recognize only the longest isoform of CRMP-1.
Reconstitution & Storage	CRMP1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	CRMP1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CRMP1
Synonyms	DPYSL1, ULIP3
Function	Necessary for signaling by class 3 semaphorins and subsequent remodeling of the cytoskeleton (PubMed:25358863). Plays a role in axon guidance (PubMed:25358863). During the axon guidance process, acts downstream of SEMA3A to promote FLNA dissociation from F-actin which results in the rearrangement of the actin cytoskeleton and the collapse of the growth cone

	(PubMed:25358863). Involved in invasive growth and cell migration (PubMed:11562390). May participate in cytokinesis (PubMed:19799413).
Cellular Location	Cytoplasm. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, spindle. Cell projection, growth cone {ECO:0000250|UniProtKB:P97427}. Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:P97427}. Perikaryon {ECO:0000250|UniProtKB:P97427}. Note=Associated with centrosomes and the mitotic spindle during metaphase (PubMed:11562390). Colocalizes with FLNA and tubulin in the central region of DRG neuron growth cone (By similarity). Following SEMA3A stimulation of DRG neurons, colocalizes with F-actin (By similarity) {ECO:0000250|UniProtKB:P97427, ECO:0000269|PubMed:11562390}
Tissue Location	Brain.

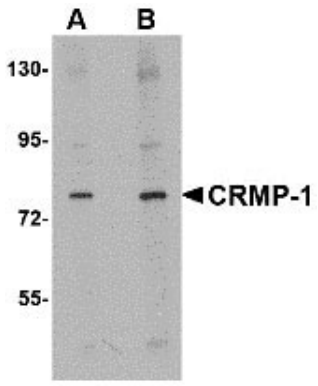
Background

CRMP1 Antibody: Collapsin-response mediator proteins (CRMPs) are highly expressed in the developing brain where they play major roles in axonal outgrowth, neurite differentiation, and apoptosis. Their continued expression in areas of high synaptic remodeling such as the cerebellum, hippocampus, and the olfactory system suggests that these proteins may also be involved in adult brain plasticity. CRMP-1 was initially identified as a dihydro-pyrimidinase expressed exclusively in brain; later studies have shown that it is involved with neurotrophin (NT) 3-induced neurite formation and outgrowth. CRMP-1 localization switches from axonal to somatodendritic when neurons reach functional maturity, suggesting that it is involved in early neuronal differentiation as well as in later processes related to the survival or death of the newly generated neurons.

References

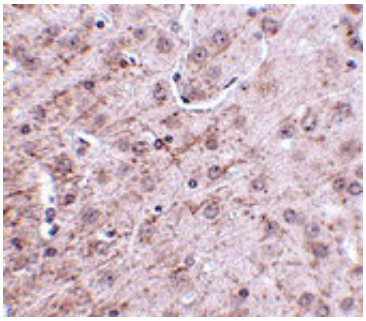
Charrier E, Reibel S, Rogemond V, et al. Collapsin response mediator proteins (CRMPs): involvement in nervous system development and adult neurodegenerative disorders. Mol. Neurobiol.2003; 28:51-64.
Cameron HA and McKay RD. Adult neurogenesis produces a large pool of new granule cells in the dentate gyrus. J. Comp. Neurol.2001; 435:406-417.
Hamajima N, Matsuda K, Sakata S, et al. A novel gene family defined by human dihydropyrimidinase and three related proteins with differential tissue distribution. Gene.1996; 180:157-63.
Quach TT, Duchemin A-M, Rogemond V, et al. Involvement of collapsin response mediator proteins in the neurite extension induced by neurotrophins in dorsal root ganglion neurons. Mol. Cell. Neurosci.2004; 25:433-43.

Images

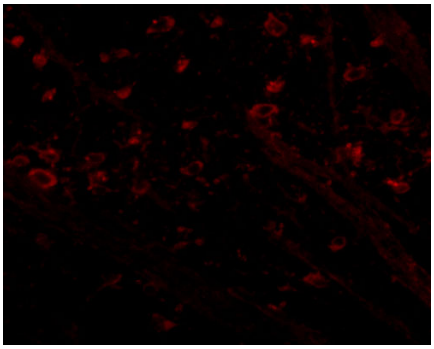


Western blot analysis of CRMP1 in rat brain tissue lysate with CRMP1 antibody at (A) 1 and (B) 2 µg/mL.

Immunohistochemistry of CRMP-1 in mouse brain tissue



with CRMP-1 antibody at 2.5 µg/mL.



Immunofluorescence of CRMP1 in mouse brain tissue with CRMP1 antibody at 5 µg/mL.