

CRMP-5 (8): sc-136424



BACKGROUND

Collapsin response mediator proteins (CRMPs), including CRMP-1 (DRP-1), CRMP-2 (DRP-2 or TOAD64), CRMP-3 (DRP-4), CRMP-4 (DRP-3) and CRMP-5 (DRP-5), mediate signal transduction after exposure of neural cells to the axon guidance molecule Semaphorin 3A (SEMA3A)/collapsin. CRMPs are present in the developing cerebral cortex and neocortical neurons and are responsive to SEMA3A. In the adult brain, the expression of CRMPs is dramatically down-regulated. However, they remain expressed in structures that retain their capacity for differentiation and plasticity. CRMP-5, which is phylogenetically divergent from the other four CRMPs, is expressed in the filopodia of growth cones as well as in adult central and peripheral neurons, including synapses. The paraneoplastic CRMP-5 autoantibody (CRMP-5-IgG) is also associated with small-cell lung carcinoma or thymoma.

REFERENCES

1. Thambisetty, M.R., et al. 2001. Paraneoplastic optic neuropathy and cerebellar ataxia with small cell carcinoma of the lung. *J. Neuroophthalmol.* 21: 164-167.
2. Yu, Z., et al. 2001. CRMP-5 neuronal autoantibody: marker of lung cancer and thymoma-related autoimmunity. *Ann. Neurol.* 49: 146-154.
3. Rosslenbroich, V., et al. 2003. Subcellular localization of collapsin response mediator proteins to lipid rafts. *Biochem. Biophys. Res. Commun.* 305: 392-399.
4. Cross, S.A., et al. 2003. Paraneoplastic autoimmune optic neuritis with retinitis defined by CRMP-5-IgG. *Ann. Neurol.* 54: 38-50.
5. Samii, A., et al. 2003. Paraneoplastic movement disorder in a patient with non-Hodgkin's lymphoma and CRMP-5 autoantibody. *Mov. Disord.* 18: 1556-1558.
6. Quach, T.T., et al. 2004. Involvement of collapsin response mediator proteins in the neurite extension induced by neurotrophins in dorsal root ganglion neurons. *Mol. Cell. Neurosci.* 25: 433-443.
7. Hotta, A., et al. 2005. Critical role of collapsin response mediator protein-associated molecule CRAM for filopodia and growth cone development in neurons. *Mol. Biol. Cell* 16: 32-39.

CHROMOSOMAL LOCATION

Genetic locus: DPYSL5 (human) mapping to 2p23.3; Dpysl5 (mouse) mapping to 5 B1.

SOURCE

CRMP-5 (8) is a mouse monoclonal antibody raised against amino acids 448-535 of CRMP-5 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

For research use only, not for use in diagnostic procedures. Not for resale.

APPLICATIONS

CRMP-5 (8) is recommended for detection of CRMP-5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for CRMP-5 siRNA (h): sc-60449, CRMP-5 siRNA (m): sc-60450, CRMP-5 shRNA Plasmid (h): sc-60449-SH, CRMP-5 shRNA Plasmid (m): sc-60450-SH, CRMP-5 shRNA (h) Lentiviral Particles: sc-60449-V and CRMP-5 shRNA (m) Lentiviral Particles: sc-60450-V.

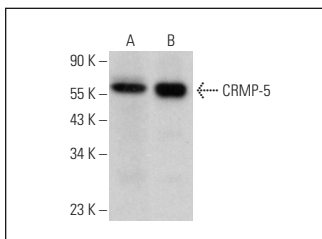
Molecular Weight of CRMP-5: 62 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, mouse brain extract: sc-2253 or Neuro-2A whole cell lysate: sc-364185.

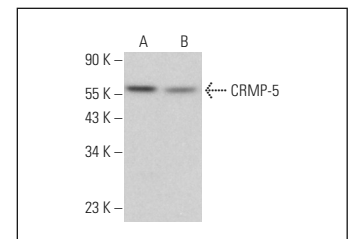
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



CRMP-5 (8): sc-136424. Western blot analysis of CRMP-5 expression in mouse cerebellum (A) and rat spinal cord (B) tissue extracts.



CRMP-5 (8): sc-136424. Western blot analysis of CRMP-5 expression in Neuro-2A (A) and C6 (B) whole cell lysates.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.