

CRMP-5 (V-12): sc-46878

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 downregulated. 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, 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 (V-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of CRMP-5 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-46878 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CRMP-5 (V-12) 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), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

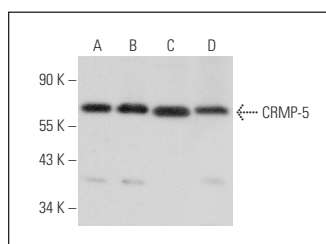
Molecular Weight of CRMP-5: 62 kDa.

Positive Controls: H69AR whole cell lysate: sc-364382, SH-SY5Y cell lysate: sc-3812 or Y79 cell lysate: sc-2240

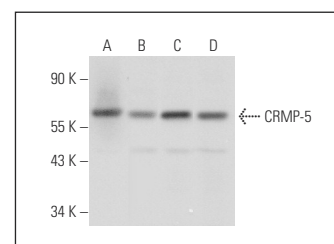
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



CRMP-5 (V-12): sc-46878. Western blot analysis of CRMP-5 expression in H69AR (A), Y79 (B), SH-SY5Y (C) and IMR-32 (D) whole cell lysates.



CRMP-5 (V-12): sc-46878. Western blot analysis of CRMP-5 expression in rat brain (A), mouse cerebellum (B), mouse brain (C) and mouse spinal cord (D) tissue extracts.

STORAGE

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

RESEARCH USE

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