

CRMP-4 (LL-5): sc-100323

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. Developing neurons in the adult hippocampus of mammals, known as the dentate gyrus, express CRMP-4. Rodent neocortical neurons express CRMP-4 in the perikaryon, in neurites and at growth cones.

REFERENCES

- Kato, Y., et al. 1998. Post-meiotic expression of the mouse dihydropyrimidine-related protein 3 (DRP-3) gene during spermiogenesis. *Mol. Reprod. Dev.* 51: 105-111.
- Nacher, J., et al. 2002. CRMP-4 expression in the adult cerebral cortex and other telencephalic areas of the lizard *Podarcis hispanica*. *Brain Res. Dev. Brain Res.* 139: 285-294.
- Seki, T. 2002. Expression patterns of immature neuronal markers PSA-NCAM, CRMP-4 and Neuro D in the hippocampus of young adult and aged rodents. *J. Neurosci. Res.* 70: 327-334.
- Liu, P.C., et al. 2003. Induction of CRMP-4 in striatum of adult rat after transient brain ischemia. *Acta Pharmacol. Sin.* 24: 1205-1211.
- Rosslonbroich, V., et al. 2003. Subcellular localization of collapsin response mediator proteins to lipid rafts. *Biochem. Biophys. Res. Commun.* 305: 392-399.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: DPYSL3 (human) mapping to 5q32; Dpysl3 (mouse) mapping to 18 B3.

SOURCE

CRMP-4 (LL-5) is a mouse monoclonal antibody raised against recombinant CRMP-4 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

CRMP-4 (LL-5) is recommended for detection of CRMP-4 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CRMP-4 siRNA (h): sc-44487, CRMP-4 siRNA (m): sc-44488, CRMP-4 shRNA Plasmid (h): sc-44487-SH, CRMP-4 shRNA Plasmid (m): sc-44488-SH, CRMP-4 shRNA (h) Lentiviral Particles: sc-44487-V and CRMP-4 shRNA (m) Lentiviral Particles: sc-44488-V.

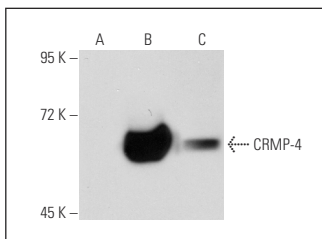
Molecular Weight of CRMP-4: 65 kDa.

Positive Controls: CRMP-4 (h5): 293T Lysate: sc-177099, CRMP-4 (m): 293T Lysate: sc-119468 or rat brain extract: sc-2392.

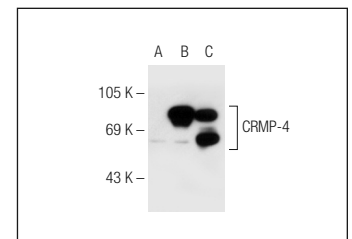
RECOMMENDED SUPPORT REAGENTS

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-4 (LL-5): sc-100323. Western blot analysis of CRMP-4 expression in non-transfected 293T: sc-117752 (A), mouse CRMP-4 transfected 293T: sc-119468 (B) and SK-N-MC (C) whole cell lysates.



CRMP-4 (LL-5): sc-100323. Western blot analysis of CRMP-4 expression in non-transfected: sc-117752 (A) and human CRMP-4 transfected: sc-177099 (B) 293T whole cell lysates and rat brain tissue extract (C).

SELECT PRODUCT CITATIONS

- Li, C., et al. 2016. Enhancing DPYSL3 gene expression via a promoter-targeted small activating RNA approach suppresses cancer cell motility and metastasis. *Oncotarget* 7: 22893-22910.
- Li, C., et al. 2018. CRMP4a suppresses cell motility by sequestering RhoA activity in prostate cancer cells. *Cancer Biol. Ther.* 6: 1-11.
- Jia, B., et al. 2018. Analysis of the miRNA and mRNA involved in osteogenesis of adipose-derived mesenchymal stem cells. *Exp. Ther. Med.* 16: 1111-1120.

RESEARCH USE

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