SANTA CRUZ BIOTECHNOLOGY, INC.

CRMP-5 (CR-1): sc-58515

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Yu, Z., et al. 2001. CRMP-5 neuronal autoantibody: marker of lung cancer and thymoma-related autoimmunity. Ann. Neurol. 49: 146-154.
2. Thambisetty, M.R., et al. 2001. Paraneoplastic optic neuropathy and cerebellar ataxia with small cell carcinoma of the lung. J. Neuroophthalmol. 21: 164-167.
3. Cross, S.A., et al. 2003. Paraneoplastic autoimmune optic neuritis with retinitis defined by CRMP-5-IgG. Ann. Neurol. 54: 38-50.
4. Rosslenbroich, V., et al. 2003. Subcellular localization of collapsin response mediator proteins to lipid rafts. Biochem. Biophys. Res. Commun. 305: 392-399.
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.

CHROMOSOMAL LOCATION

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

SOURCE

CRMP-5 (CR-1) is a rat monoclonal antibody raised against amino acids 369-564 of CRMP-5 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CRMP-5 (CR-1) is available conjugated to agarose (sc-58515 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-58515 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-58515 PE), fluorescein (sc-58515 FITC), Alexa Fluor® 488 (sc-58515 AF488), Alexa Fluor® 546 (sc-58515 AF546), Alexa Fluor® 594 (sc-58515 AF594) or Alexa Fluor® 647 (sc-58515 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-58515 AF680) or Alexa Fluor® 790 (sc-58515 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

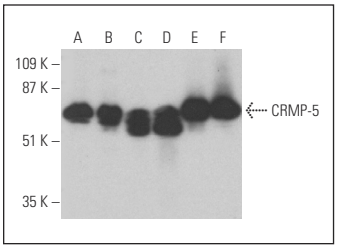
CRMP-5 (CR-1) is recommended for detection of the C-terminal region of CRMP-5 of mouse, rat, human and bovine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with other CRMP isoforms.

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.

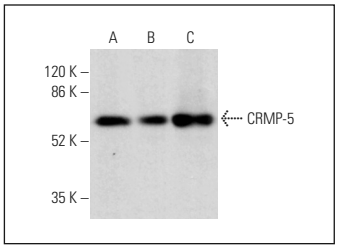
Molecular Weight of CRMP-5: 62 kDa.

Positive Controls: SHP-77 whole cell lysate: sc-364258, Neuro-2A whole cell lysate: sc-364185 or mouse brain extract: sc-2253.

DATA



CRMP-5 (CR-1) HRP: sc-58515 HRP. Direct western blot analysis of CRMP-5 expression in C6 (**A**), Neuro-2A (**B**), EOC 20 (**C**), NIH/3T3 (**D**), SK-N-SH (**E**) and SHP-77 (**F**) whole cell lysates.



CRMP-5 (CR-1): sc-58515. Western blot analysis of CRMP-5 expression in C6 (**A**) and Neuro-2A (**B**) whole cell lysates and mouse brain tissue extract (**C**).

SELECT PRODUCT CITATIONS

1. Zhou, K., et al. 2012. NMDA receptor hypofunction induces dysfunctions of energy metabolism and semaphorin signaling in rats: a synaptic proteome study. Schizophr. Bull. 38: 579-591.
2. Deng, J., et al. 2019. N-acetylcysteine decreases malignant characteristics of glioblastoma cells by inhibiting Notch2 signaling. J. Exp. Clin. Cancer Res. 38: 2.

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.

PROTOCOLS

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