

# CRMP-1 siRNA (m): sc-60446

## 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-1 is also involved in cancer invasion and metastasis.

## REFERENCES

1. Torres, R., et al. 1999. Genomic organization and localization of the human CRMP-1 gene. *DNA Res.* 5: 393-395.
2. Shih, J.Y., et al. 2003. Collapsin response mediator protein-1: a novel invasion-suppressor gene. *Clin. Exp. Metastasis* 20: 69-76.
3. Rosslenbroich, V., et al. 2003. Subcellular localization of collapsin response mediator proteins to lipid rafts. *Biochem. Biophys. Res. Commun.* 305: 392-399.
4. Sivakumaran, T.A., et al. 2004. Haplotype and linkage disequilibrium analysis of the CRMP1 and EVC genes. *Int. J. Mol. Med.* 14: 903-907.
5. Quach, T.T., et al. 2004. Involvement of collapsin response mediator proteins in induced by neurotrophins in dorsal root ganglion neurons. *Mol. Cell. Neurosci.* 25: 433-443.
6. Ohta, S., et al. 2005. Downregulation of metastasis suppressor genes in malignant pheochromocytoma. *Int. J. Cancer* 114:139-143.

## CHROMOSOMAL LOCATION

Genetic locus: Crmp1 (mouse) mapping to 5 B3.

## PRODUCT

CRMP-1 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CRMP-1 shRNA Plasmid (m): sc-60446-SH and CRMP-1 shRNA (m) Lentiviral Particles: sc-60446-V as alternate gene silencing products.

For independent verification of CRMP-1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-60446A, sc-60446B and sc-60446C.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

CRMP-1 siRNA (m) is recommended for the inhibition of CRMP-1 expression in mouse cells.

## SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10  $\mu$ M in 66  $\mu$ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

## GENE EXPRESSION MONITORING

CRMP-1 (D-4): sc-365348 is recommended as a control antibody for monitoring of CRMP-1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CRMP-1 gene expression knockdown using RT-PCR Primer: CRMP-1 (m)-PR: sc-60446-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Nakamura, F., et al. 2014. Amino- and carboxyl-terminal domains of Filamin-A interact with CRMP1 to mediate Sema3A signalling. *Nat. Commun.* 5: 5325.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.