SANTA CRUZ BIOTECHNOLOGY, INC.

CARM1 (G-2): sc-393381

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CARM1 (coactivator-associated arginine methyltransferase 1), also known as protein arginine N-methyltransferase 4 (PRMT4), is a 585 amino acid nuclear and cytoplasmic protein belonging to the protein arginine N-methyltransferase family. As a protein arginine N-methyltransferase, CARM1 is capable of catalyzing the transfer of methyl groups from S-adenosylmethionine to the guanidino group nitrogen atoms of arginine residues in certain proteins involved in mRNA stability, DNA packaging and transcriptional regulation. The methyltransferase activity of CARM1 has been found to be negatively regulated through phosphorylation at a conserved serine residue. CARM1 acts as a positive regulator for multiple transcription factors and functions as a secondary coactivator through its association with p160 coactivators. CARM1 exists as two alternatively spliced isoforms, and is encoded by a gene that maps to human chromosome 19p13.2.

REFERENCES

1. Chen, D., et al. 1999. Regulation of transcription by a protein methyltransferase. Science 284: 2174-2177.
2. Frankel, A., et al. 2002. The novel human protein arginine N-methyltransferase PRMT6 is a nuclear enzyme displaying unique substrate specificity. J. Biol. Chem. 277: 3537-3543.
3. Chen, S.L., et al. 2002. The coactivator-associated arginine methyltransferase is necessary for muscle differentiation: CARM1 coactivates myocyte enhancer factor-2. J. Biol. Chem. 277: 4324-4333.
4. An, W., et al. 2004. Ordered cooperative functions of PRMT1, p300, and CARM1 in transcriptional activation by p53. Cell 117: 735-748.
5. Ohkura, N., et al. 2005. Coactivator-associated arginine methyltransferase 1, CARM1, affects pre-mRNA splicing in an isoform-specific manner. J. Biol. Chem. 280: 28927-28935.

CHROMOSOMAL LOCATION

Genetic locus: CARM1 (human) mapping to 19p13.2; Carm1 (mouse) mapping to 9 A3.

SOURCE

CARM1 (G-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 578-608 at the C-terminus of CARM1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for ChIP application, sc-393381 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-393381 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

CARM1 (G-2) is recommended for detection of CARM1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 CARM1 siRNA (h): sc-44875, CARM1 siRNA (m): sc-37730, CARM1 shRNA Plasmid (h): sc-44875-SH, CARM1 shRNA Plasmid (m): sc-37730-SH, CARM1 shRNA (h) Lentiviral Particles: sc-44875-V and CARM1 shRNA (m) Lentiviral Particles: sc-37730-V.

CARM1 (G-2) X TransCruz antibody is recommended for ChIP assays.

Molecular Weight of CARM1 isoform 1: 64 kDa.

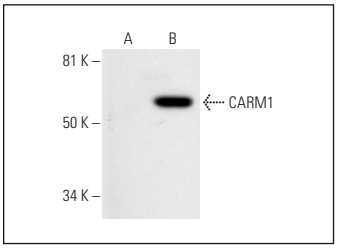
Molecular Weight of CARM1 isoform 2: 45 kDa.

Positive Controls: CARM1 (m): 293T Lysate: sc-119000.

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CARM1 (G-2): sc-393381. Western blot analysis of CARM1 expression in non-transfected: sc-117752 (**A**) and mouse CARM1 transfected: sc-119000 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wang, J., et al. 2018. Asymmetric expression of LincGET biases cell fate in two-cell mouse embryos. Cell 175: 1887-1901.e18.
2. Wang, J., et al. 2024. Alternative splicing of CARM1 regulated by LincGET-guided paraspeckles biases the first cell fate in mammalian early embryos. Nat. Struct. Mol. Biol. 31: 1341-1354.

RESEARCH USE

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