

# PRMT7 (D-1): sc-166819

## BACKGROUND

Arginine methylation is an irreversible protein modification catalyzed by arginine methyltransferases, such as PRMT7, which uses S-adenosylmethionine (AdoMet) as the methyl donor. Arginine methylation is implicated in signal transduction, RNA transport and RNA splicing. PRMT7 has two methyltransferase domains, each containing a putative AdoMet-binding motif. The N-terminal methyltransferase domain closely resembles the catalytic core of PRMT5, and the C-terminal domain is most similar to that of PRMT1. Three PRMT7 splice variants have been identified by database analysis. PRMT7 is localized to the nucleus and cytoplasm and moderate expression is observed in adult brain and lung tissues.

## REFERENCES

- Nagase, T., Kikuno, R. and Ohara, O. 2001. Prediction of the coding sequences of unidentified human genes. XXI. The complete sequences of 60 new cDNA clones from brain which code for large proteins. DNA Res. 8: 179-187.
- Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610087. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Miranda, T.B., Miranda, M., Frankel, A. and Clarke, S. 2004. PRMT7 is a member of the protein arginine methyltransferase family with a distinct substrate specificity. J. Biol. Chem. 279: 22902-22907.
- Lee, J.H., Cook, J.R., Yang, Z.H., Mirochnitchenko, O., Gunderson, S.I., Felix, A.M., Herth, N., Hoffmann, R. and Pestka, S. 2005. PRMT7, a new protein arginine methyltransferase that synthesizes symmetric dimethyl-arginine. J. Biol. Chem. 280: 3656-3664.
- Miranda, T.B., Webb, K.J., Edberg, D.D., Reeves, R. and Clarke, S. 2005. Protein arginine methyltransferase 6 specifically methylates the nonhistone chromatin protein HMGA1a. Biochem. Biophys. Res. Commun. 336: 831-835.
- Zheng, Z., Schmidt-Ott, K.M., Chua, S., Foster, K.A., Frankel, R.Z., Pavlidis, P., Barasch, J., D'Agati, V.D. and Gharavi, A.G. 2005. A Mendelian locus on chromosome 16 determines susceptibility to doxorubicin nephropathy in the mouse. Proc. Natl. Acad. Sci. USA 102: 2502-2507.

## CHROMOSOMAL LOCATION

Genetic locus: PRMT7 (human) mapping to 16q22.1; Prmt7 (mouse) mapping to 8 D3.

## SOURCE

PRMT7 (D-1) is a mouse monoclonal antibody raised against amino acids 92-391 mapping near the N-terminus of PRMT7 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

PRMT7 (D-1) is recommended for detection of PRMT7 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 PRMT7 siRNA (h): sc-61405, PRMT7 siRNA (m): sc-61406, PRMT7 shRNA Plasmid (h): sc-61405-SH, PRMT7 shRNA Plasmid (m): sc-61406-SH, PRMT7 shRNA (h) Lentiviral Particles: sc-61405-V and PRMT7 shRNA (m) Lentiviral Particles: sc-61406-V.

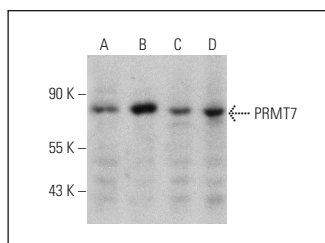
Molecular Weight of PRMT7: 72 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or 3T3-L1 cell lysate: sc-2243.

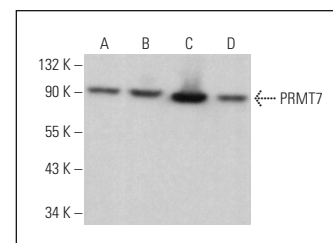
## RECOMMENDED SUPPORT REAGENTS

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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



PRMT7 (D-1): sc-166819. Western blot analysis of PRMT7 expression in PC-3 (A), HeLa (B), NIH/3T3 (C) and 3T3-L1 (D) whole cell lysates.



PRMT7 (D-1): sc-166819. Western blot analysis of PRMT7 expression in JAR (A), IMR-32 (B), F9 (C) and EOC 20 (D) whole cell lysates.

## STORAGE

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

## PROTOCOLS

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