

PRMT6 (D-5): sc-271744

BACKGROUND

A class of proteins termed type 1 protein arginine N-methyltransferase (PRMT) enzymes contribute to posttranslational modification of RNA-binding proteins, but differ in substrate specificities, oligomerization properties and subcellular localization. PRMTs contain an S-adenosylmethione motif which functions to add one or two methyl groups to guanidino nitrogens of arginine (R) side chains. PRMT6, also known as HRMT1L6, is a nuclear protein belonging to the PRMT family and is predominantly expressed in testis and kidney. It is known to methylate Histones H3, H4 and H2A. PRMT6 is the major dimethyltransferase for Histone H3 and specifically methylates Histone H3 at R2. Methylation at Histone H3 R2 acts to inhibit Histone H3 K4 trimethylation and ultimately leads to the transcriptional repression of genes that are activated by Histone H3 K4 trimethylation. In addition, PRMT6 methylates HIV TAT, possibly functioning as a form of cellular innate immunity to restrict levels of HIV replication.

CHROMOSOMAL LOCATION

Genetic locus: PRMT6 (human) mapping to 1p13.3; Prmt6 (mouse) mapping to 3 F3.

SOURCE

PRMT6 (D-5) is a mouse monoclonal antibody raised against amino acids 181-310 mapping within an internal region of PRMT6 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PRMT6 (D-5) is available conjugated to agarose (sc-271744 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271744 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271744 PE), fluorescein (sc-271744 FITC), Alexa Fluor[®] 488 (sc-271744 AF488), Alexa Fluor[®] 546 (sc-271744 AF546), Alexa Fluor[®] 594 (sc-271744 AF594) or Alexa Fluor[®] 647 (sc-271744 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271744 AF680) or Alexa Fluor[®] 790 (sc-271744 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PRMT6 (D-5) is recommended for detection of PRMT6 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), immunohistochemistry (including paraffin-embedded sections) (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 PRMT6 siRNA (h): sc-106848, PRMT6 siRNA (m): sc-108029, PRMT6 shRNA Plasmid (h): sc-106848-SH, PRMT6 shRNA Plasmid (m): sc-108029-SH, PRMT6 shRNA (h) Lentiviral Particles: sc-106848-V and PRMT6 shRNA (m) Lentiviral Particles: sc-108029-V.

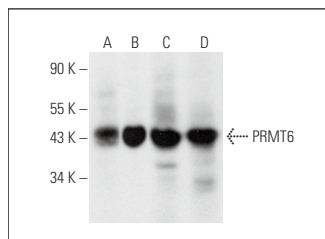
Molecular Weight of PRMT6: 42 kDa.

Positive Controls: PRMT6 (m2): 293T Lysate: sc-122781.

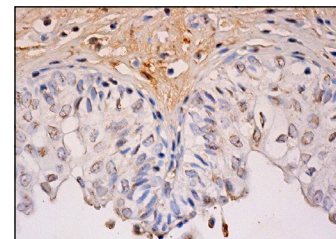
STORAGE

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

DATA



PRMT6 (D-5): sc-271744. Western blot analysis of PRMT6 expression in non-transfected 293T: sc-117752 (A), mouse PRMT6 transfected 293T: sc-122781 (B), U-2 OS (C) and HeLa (D) whole cell lysates.



PRMT6 (D-5): sc-271744. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing nuclear envelope staining of urothelial cells.

SELECT PRODUCT CITATIONS

- Sun, Y., et al. 2014. Protein arginine methyltransferase 6 enhances ligand-dependent and -independent activity of estrogen receptor α via distinct mechanisms. *Biochim. Biophys. Acta* 1843: 2067-2078.
- Zhao, X., et al. 2018. *Ganoderma lucidum* polysaccharide inhibits prostate cancer cell migration via the protein arginine methyltransferase 6 signaling pathway. *Mol. Med. Rep.* 17: 147-157.
- Huang, T., et al. 2021. PRMT6 methylation of RCC1 regulates mitosis, tumorigenicity, and radiation response of glioblastoma stem cells. *Mol. Cell* 81: 1276-1291.e9.
- Yin, S., et al. 2021. PRMT5-mediated arginine methylation activates AKT kinase to govern tumorigenesis. *Nat. Commun.* 12: 3444.
- Liu, L., et al. 2022. Arginine methylation of BRD4 by PRMT2/4 governs transcription and DNA repair. *Sci. Adv.* 8: eadd8928.
- Schonfeld, M., et al. 2023. Arginine methylation of integrin α -4 prevents fibrosis development in alcohol-associated liver disease. *Cell. Mol. Gastroenterol. Hepatol.* 15: 39-59.
- Yin, S., et al. 2023. CDK5-PRMT1-WDR24 signaling cascade promotes mTORC1 signaling and tumor growth. *Cell Rep.* 42: 112316.
- Yang, T., et al. 2023. The PRMT6/PARP1/CRL4B complex regulates the circadian clock and promotes breast tumorigenesis. *Adv. Sci.* 10: e2202737.
- Yoo, Y.J., et al. 2023. Asymmetric dimethylation of AMPK α 1 by PRMT6 contributes to the formation of phase-separated puncta. *Biochem. Biophys. Res. Commun.* 666: 92-100.

RESEARCH USE

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

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