

PRMT5 (A-11): sc-376937

BACKGROUND

The formation of the spliceosome includes the assembly of Sm proteins in an ordered manner onto snRNAs. This process is mediated by the survival of a motor neuron (SMN) protein and is enhanced by modification of specific arginine residues in the Sm proteins to symmetrical dimethylarginines (sDMAs). sDMA modification of Sm proteins is catalyzed by the methyltransferase PRMT5, also designated JAK-binding protein 1, (JBP1), pICln, and two novel factors. PRMT5 binds the Sm proteins via their arginine- and Glycine-rich (RG) domains, while pICln binds the Sm domains. PRMT5 is a distinct member of the protein-arginine methyltransferase (PRMT) family, and predominantly localizes to the cytoplasm in a wide variety of tissues. PRMT5 also associates specifically with the transcription start site region of the cyclin E1 promoter, and, therefore, is involved in the control of transcription and proliferation. The gene encoding human PRMT5 maps to chromosome 14q11.2.

CHROMOSOMAL LOCATION

Genetic locus: PRMT5 (human) mapping to 14q11.2; Prmt5 (mouse) mapping to 14 C3.

SOURCE

PRMT5 (A-11) is a mouse monoclonal antibody raised against amino acids 338-637 mapping at the C-terminus of PRMT5 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.

PRMT5 (A-11) is available conjugated to agarose (sc-376937 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376937 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376937 PE), fluorescein (sc-376937 FITC), Alexa Fluor® 488 (sc-376937 AF488), Alexa Fluor® 546 (sc-376937 AF546), Alexa Fluor® 594 (sc-376937 AF594) or Alexa Fluor® 647 (sc-376937 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376937 AF680) or Alexa Fluor® 790 (sc-376937 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PRMT5 (A-11) is recommended for detection of PRMT5 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). PRMT5 (A-11) is also recommended for detection of PRMT5 in additional species, including equine, bovine, porcine and canine.

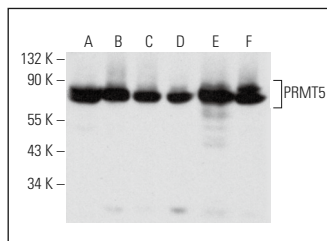
Suitable for use as control antibody for PRMT5 siRNA (h): sc-41073, PRMT5 siRNA (m): sc-41074, PRMT5 shRNA Plasmid (h): sc-41073-SH, PRMT5 shRNA Plasmid (m): sc-41074-SH, PRMT5 shRNA (h) Lentiviral Particles: sc-41073-V and PRMT5 shRNA (m) Lentiviral Particles: sc-41074-V.

Molecular Weight of PRMT5: 72 kDa.

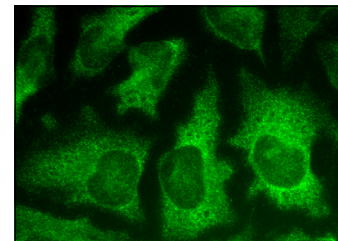
STORAGE

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

DATA



PRMT5 (A-11): sc-376937. Western blot analysis of PRMT5 expression in Jurkat (A), HeLa (B), c4 (C), NIH/3T3 (D), PC-12 (E) and KNRK (F) whole cell lysates.



PRMT5 (A-11): sc-376937. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Seth-Vollenweider, T., et al. 2014. Novel mechanism of negative regulation of 1,25-dihydroxyvitamin D₃-induced 25-hydroxyvitamin D₃ 24-hydroxylase (Cyp24a1) transcription: epigenetic modification involving cross-talk between protein-arginine methyltransferase 5 and the SWI/SNF complex. *J. Biol. Chem.* 289: 33958-33970.
- Wang, Y., et al. 2017. Identifying the ubiquitination targets of E6AP by orthogonal ubiquitin transfer. *Nat. Commun.* 8: 2232.
- Jeon, J.Y., et al. 2018. Protein arginine methyltransferase 5 is implicated in the aggressiveness of human hepatocellular carcinoma and controls the invasive activity of cancer cells. *Oncol. Rep.* 40: 536-544.
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- Zhang, S., et al. 2019. Targeting PRMT5/Akt signalling axis prevents human lung cancer cell growth. *J. Cell. Mol. Med.* 23: 1333-1342.
- Oqani, R.K., et al. 2019. Iws1 and Spt6 regulate trimethylation of Histone H3 on lysine 36 through Akt signaling and are essential for mouse embryonic genome activation. *Sci. Rep.* 9: 3831.
- Hwang, J.W., et al. 2019. Protein arginine methyltransferase 6 suppresses adipogenic differentiation by repressing peroxisome proliferator-activated receptor γ activity. *Int. J. Mol. Med.* 43: 2462-2470.
- Li, Y., et al. 2019. PRMT5 promotes human lung cancer cell apoptosis via Akt/Gsk3β signaling induced by resveratrol. *Cell Transplant.* 28: 1664-1673.
- Chaturvedi, N.K., et al. 2019. Role of protein arginine methyltransferase 5 in group 3 (Myc-driven) medulloblastoma. *BMC Cancer* 19: 1056.

RESEARCH USE

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

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