

# PRMT1 (H-135): sc-30119

## BACKGROUND

A class of proteins termed type 1 protein arginine N-methyltransferase (PRMTs) enzymes contribute to post-translational modification of RNA-binding proteins, but differ in substrate specificities, oligomerization properties, and subcellular localization. PRMT1, the predominant form in mammalian cells, is located in the nucleus. At the carboxy terminus, Interleukin enhancer-binding factor 3 (ILF3) binds PRMT1, thereby regulating PRMT1 activity. Alternative mRNA splicing of the PRMT gene results in three isoforms of PRMT1 that differ in their amino terminus regions, all of which are enzymatically active. PRMT8, also known as HRMT1L3 or HRMT1L4 (heterogenous nuclear ribonucleoprotein methyltransferase-like protein 4), is a distinct member of the type 1 PRMT family with tissue-specific expression and plasma membrane localization. PRMT8 is specifically expressed in the brain where it functions as an arginine methyltransferase with a possible role in neuronal differentiation. It is most closely related to PRMT1 and may have arisen through a gene duplication. PRMT8 can heterodimerize with PRMT1 and has similar substrate preference.

## REFERENCES

1. Tang, J., et al. 2000. PRMT1 is the predominant type 1 protein arginine methyltransferase in mammalian cells. *J. Biol. Chem.* 275: 7723-7730.
2. Tang, J., et al. 2000. Protein-arginine methyltransferase I, the predominant protein-arginine methyltransferase in cells, interacts with and is regulated by interleukin enhancer-binding factor 3. *J. Biol. Chem.* 275: 19866-19876.
3. Scorilas, A., et al. 2000. Genomic organization, physical mapping, and expression analysis of the human protein arginine methyltransferase 1 gene. *Biochem. Biophys. Res. Commun.* 278: 349-359.
4. Zhang, X., et al. 2003. Structure of the predominant protein arginine methyltransferase PRMT1 and analysis of its binding to substrate peptides. *Structure* 11: 509-520.
5. An, W., et al. 2004. Ordered cooperative functions of PRMT1, p300, and CARM1 in transcriptional activation by p53. *Cell* 117: 735-748.

## CHROMOSOMAL LOCATION

Genetic locus: PRMT1 (human) mapping to 19q13.33, PRMT8 (human) mapping to 12p13.32; Prmt8 (mouse) mapping to 6 F3, Prmt1 (mouse) mapping to 7 B4.

## SOURCE

PRMT1 (H-135) is a rabbit polyclonal antibody raised against amino acids 166-300 mapping within an internal region of PRMT1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

PRMT1 (H-135) is recommended for detection of PRMT1 and, to a lesser extent, PRMT8 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

PRMT1 (H-135) is also recommended for detection of PRMT1 and, to a lesser extent, PRMT8 in additional species, including equine, canine, bovine and porcine.

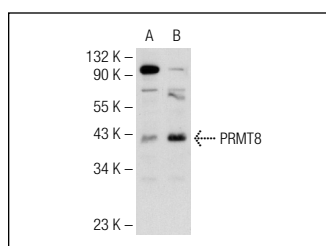
Molecular Weight of PRMT1: 42 kDa.

Positive Controls: PC-3 nuclear extract: sc-2152, PRMT8 (h2): 293 Lysate: sc-174060 or PRMT1 (m): 293T Lysate: sc-127382.

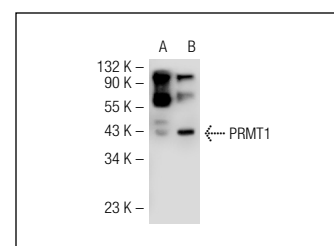
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



PRMT1 (H-135): sc-30119. Western blot analysis of PRMT8 expression in non-transfected: sc-110760 (A) and human PRMT8 transfected: sc-174060 (B) 293 whole cell lysates.



PRMT1 (H-135): sc-30119. Western blot analysis of PRMT1 expression in non-transfected: sc-117752 (A) and mouse PRMT1 transfected: sc-127382 (B) 293T whole cell lysates.

## RESEARCH USE

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

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Try **PRMT1 (B-2): sc-166963** or **PRMT1 (G-6): sc-271404**, our highly recommended monoclonal alternatives to PRMT1 (H-135).