

PRMT5 (H-300): sc-292408

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 methylome, a complex comprised of the type II 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.

REFERENCES

- Pollack, B.P., et al. 1999. The human homologue of the yeast proteins Skb1 and Hsl7p interacts with JAK kinases and contains protein methyltransferase activity. *J. Biol. Chem.* 274: 31531-31542.
- Frankel, A. and Clarke, S. 2000. PRMT3 is a distinct member of the protein Arginine N-methyltransferase family. Conferral of substrate specificity by a zinc-finger domain. *J. Biol. Chem.* 275: 32974-32982.
- Meister, G., et al. 2001. Methylation of Sm proteins by a complex containing PRMT5 and the putative U snRNP assembly factor pICln. *Curr. Biol.* 11: 1990-1994.
- Friesen, W.J., et al. 2001. The methylome, a 20S complex containing JBP1 and pICln, produces dimethylarginine-modified Sm proteins. *Mol. Cell. Biol.* 21: 8289-8300.

CHROMOSOMAL LOCATION

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

SOURCE

PRMT5 (H-300) is a rabbit polyclonal antibody raised against amino acids 338-637 mapping at the C-terminus of PRMT5 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

PRMT5 (H-300) is recommended for detection of PRMT5 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).

PRMT5 (H-300) is also recommended for detection of PRMT5 in additional species, including equine, canine, bovine and porcine.

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.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or ES-2 cell lysate: sc-24674.

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.

RESEARCH USE

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



Try **PRMT5 (A-11): sc-376937** or **PRMT5 (23C7): sc-136202**, our highly recommended monoclonal alternatives to PRMT5 (H-300). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **PRMT5 (A-11): sc-376937**.