

PRMT3 (N-15): sc-13396

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 while PRMT3 is present in the cytoplasm. 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 three splice variants of PRMT1 are enzymatically active. PRMT3 recognizes and binds to RNA-associated substrates with a zinc-finger domain in its amino terminus. The zinc-liganded form of this domain is required for the enzyme to recognize RNA-associated substrates.

REFERENCES

1. Tang, J., et al. 1998. PRMT3, a type 1 protein arginine N-methyltransferase that differs from PRMT1 in its oligomerization, subcellular localization, substrate specificity, and regulation. *J. Biol. Chem.* 272: 16935-16945.
2. Tang, J., et al. 2000. PRMT1 is the predominant type 1 protein arginine methyltransferase in mammalian cells. *J. Biol. Chem.* 275: 7723-7730.
3. 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.
4. 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.
5. Frankel, A., et al. 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.
6. Zhang, X., et al. 2000. Crystal structure of the conserved core of protein arginine methyltransferase PRMT3. *EMBO J.* 19: 3509-3019.

CHROMOSOMAL LOCATION

Genetic locus: PRMT3 (human) mapping to 11p15.1.

SOURCE

PRMT3 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PRMT3 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.

Blocking peptide available for competition studies, sc-13396 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

PRMT3 (N-15) is recommended for detection of PRMT3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 PRMT3 siRNA (h): sc-41071, PRMT3 shRNA Plasmid (h): sc-41071-SH and PRMT3 shRNA (h) Lentiviral Particles: sc-41071-V.

Molecular Weight of PRMT3: 60 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



PRMT3 (N-15): sc-13396. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing cytoplasmic and membrane staining of glandular cells.

RESEARCH USE

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

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Try **PRMT3 (PRMT3-367): sc-59649**, our highly recommended monoclonal alternative to PRMT3 (N-15).