SANTA CRUZ BIOTECHNOLOGY, INC.

PRMT1 (N-19): sc-13392

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. 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 activitiy. 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: 6935-16945.
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.

CHROMOSOMAL LOCATION

Genetic locus: PRMT1 (human) mapping to 19q13.33; Prmt1 (mouse) mapping to 7 B4.

SOURCE

PRMT1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus 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. Also available as TransCruz reagent for ChIP application, sc-13392 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-13392 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.

PROTOCOLS

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

APPLICATIONS

PRMT1 (N-19) is recommended for detection of splice variants 1 and 2 of PRMT1 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PRMT1 (N-19) is also recommended for detection of splice variants 1 and 2 of PRMT1 in additional species, including canine and porcine.

Suitable for use as control antibody for PRMT1 siRNA (h): sc-41069, PRMT1 siRNA (m): sc-41070, PRMT1 shRNA Plasmid (h): sc-41069-SH, PRMT1 shRNA Plasmid (m): sc-41070-SH, PRMT1 shRNA (h) Lentiviral Particles: sc-41069-V and PRMT1 shRNA (m) Lentiviral Particles: sc-41070-V.

PRMT1 (N-19) X TransCruz antibody is recommended for ChIP assays.

Molecular Weight of PRMT1: 42-45 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, PC-3 nuclear extract: sc-2152 or K-562 whole cell lysate: sc-2203.

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.

SELECT PRODUCT CITATIONS

1. Metivier, R., et al. 2003. Estrogen receptor-α directs ordered, cyclical, and combinatorial recruitment of cofactors on a natural target promoter. Cell 115: 751-763.
2. Scalera, F., et al. 2009. Red wine decreases asymmetric dimethylarginine via SIRT1 induction in human endothelial cells. Biochem. Biophys. Res. Commun. 390: 703-709.
3. Hsu, C.H., et al. 2012. The HPV E6 oncoprotein targets histone methyltransferases for modulating specific gene transcription. Oncogene 31: 2335-2349.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **PRMT1 (B-2): sc-166963** or **PRMT1 (G-6): sc-271404**, our highly recommended monoclonal alternatives to PRMT1 (N-19).