SANTA CRUZ BIOTECHNOLOGY, INC.

PRMT2 (B-11): sc-393254

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

PRMT2 (protein arginine N-methyltransferase 2) is a 433 amino acid protein encoded by the human gene PRMT2. PRMT2 belongs to the protein arginine N-methyltransferase family and contains one SH3 domain. The primary function of protein methyltransferases is the post-translational methylation of arginine residues. The PRMT family of proteins contains related putative methyltransferase domains that modify chromatin and regulate cellular transcription. Some family members, PRMT1 and PRMT4, show transcriptional modulation and intracellular signaling. Through a highly conserved S-adenosylmethionine-binding domain, PRMT2 inhibits NFκB-dependent transcription and promotes apoptosis. PRMT2 has this effect by blocking nuclear export of IκB-α through a leptomycin-sensitive pathway, which increases nuclear IκB-α and decreases NFκB DNA binding. PRMT2 also renders cells susceptible to apoptosis by cytokines or cytotoxic drugs.

REFERENCES

1. Qi, C., et al. 2002. Identification of protein arginine methyltransferase 2 as a coactivator for estrogen receptor α. J. Biol. Chem. 277: 28624-28630.
2. Ganesh, L., et al. 2006. Protein methyltransferase 2 inhibits NFκB function and promotes apoptosis. Mol. Cell. Biol. 26: 3864-3874.
3. Yildirim, A.O., et al. 2006. Increased protein arginine methylation in chronic hypoxia: role of protein arginine methyltransferases. Am. J. Respir. Cell Mol. Biol. 35: 436-443.
4. Dong, C.W., et al. 2007. Molecular characterisation and inductive expression of a fish protein arginine methyltransferase 1 gene in response to virus infection. Fish Shellfish Immunol. 22: 380-393.
5. McGraw, S., et al. 2007. Temporal expression of factors involved in chromatin remodeling and in gene regulation during early bovine *in vitro* embryo development. Reproduction 133: 597-608.
6. Meyer, R., et al. 2007. PRMT2, a member of the protein arginine methyltransferase family, is a coactivator of the androgen receptor. J. Steroid Biochem. Mol. Biol. 107: 1-14.
7. Besson, V., et al. 2007. Modeling the monosomy for the telomeric part of human chromosome 21 reveals haploinsufficient genes modulating the inflammatory and airway responses. Hum. Mol. Genet. 16: 2040-2052.

CHROMOSOMAL LOCATION

Genetic locus: PRMT2 (human) mapping to 21q22.3; Prmt2 (mouse) mapping to 10 C1.

SOURCE

PRMT2 (B-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 350-376 within an internal region of PRMT2 of mouse origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-393254 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

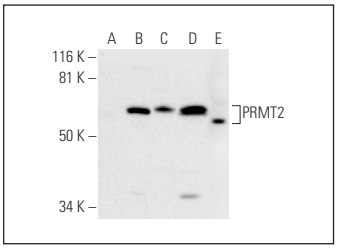
PRMT2 (B-11) is recommended for detection of PRMT2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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).

Suitable for use as control antibody for PRMT2 siRNA (h): sc-62860, PRMT2 siRNA (m): sc-62861, PRMT2 shRNA Plasmid (h): sc-62860-SH, PRMT2 shRNA Plasmid (m): sc-62861-SH, PRMT2 shRNA (h) Lentiviral Particles: sc-62860-V and PRMT2 shRNA (m) Lentiviral Particles: sc-62861-V.

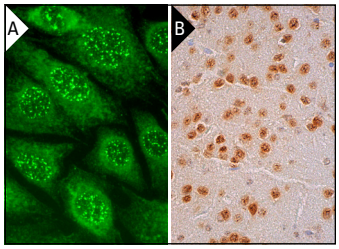
Molecular Weight of PRMT2: 55 kDa.

Positive Controls: PRMT2 (h): 293T Lysate: sc-172533, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

DATA



PRMT2 (B-11): sc-393254. Western blot analysis of PRMT2 expression in non-transfected 293T: sc-117752 (**A**), human PRMT2 transfected 293T: sc-172533 (**B**), HeLa (**C**) and Jurkat (**D**) whole cell lysates and human kidney tissue extract (**E**).



PRMT2 (B-11): sc-393254. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing nucelar and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse brain tissue showing nuclear staining of neuronal cells and glial cells (**B**).

SELECT PRODUCT CITATIONS

1. Zhang, L., et al. 2023. PRMT1 reverts the immune escape of necroptotic colon cancer through RIP3 methylation. Cell Death Dis. 14: 233.

RESEARCH USE

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

PROTOCOLS

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