SANTA CRUZ BIOTECHNOLOGY, INC.

PRMT2 (E-12): sc-390089

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. 2006. 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.

CHROMOSOMAL LOCATION

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

SOURCE

PRMT2 (E-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 361-395 near the C-terminus of PRMT2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 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-390089 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PRMT2 (E-12) 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) 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.

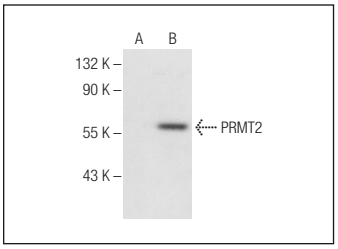
Molecular Weight of PRMT2: 55 kDa.

Positive Controls: PRMT2 (h): 293T Lysate: sc-172533 or HeLa nuclear extract: sc-2120.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PRMT2 (E-12): sc-390089. Western blot analysis of PRMT2 expression in non-transfected: sc-117752 (**A**) and human PRMT2 transfected: sc-172533 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ka, N.L., et al. 2022. Type I IFN stimulates IFI16-mediated aromatase expression in adipocytes that promotes E2-dependent growth of ER-positive breast cancer. Cell. Mol. Life Sci. 79: 306.

STORAGE

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

RESEARCH USE

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