

PRMT2 (2439C4a): sc-81361

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

- Qi, C., Chang, J., Zhu, Y., Yeldandi, A.V., Rao, S.M. and Zhu, Y.J. 2002. Identification of protein arginine methyltransferase 2 as a co-activator for estrogen receptor α. *J. Biol. Chem.* 277: 28624-28630.
- Ganesh, L., Yoshimoto, T., Moorthy, N.C., Akahata, W., Boehm, M., Nabel, E.G. and Nabel, G.J. 2006. Protein methyltransferase 2 inhibits NFκB function and promotes apoptosis. *Mol. Cell. Biol.* 26: 3864-3874.
- Yildirim, A.O., Bulau, P., Zakrzewicz, D., Kitowska, K.E., Weissmann, N., Grimminger, F., Morty, R.E. and Eickelberg, O. 2006. Increased protein arginine methylation in chronic hypoxia: role of protein arginine methyltransferases. *Am. J. Respir. Cell Mol. Biol.* 35: 436-443.
- Dong, C.W., Zhang, Y.B., Lu, A.J., Zhu, R., Zhang, F.T., Zhang, Q.Y. and Gui, J.F. 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.
- McGraw, S., Vigneault, C. and Sirard, M.A. 2007. Temporal expression of factors involved in chromatin remodeling and in gene regulation during early bovine *in vitro* embryo development. *Reproduction* 133: 597-608.
- Meyer, R., Wolf, S.S. and Obendorf, M. 2007. PRMT2, a member of the protein arginine methyltransferase family, is a co-activator of the androgen receptor. *J. Steroid Biochem. Mol. Biol.* 107: 1-14.
- Besson, V., Brault, V., Duchon, A., Togbe, D., Bizot, J.C., Quesniaux, V.F., Ryffel, B. and Héroult, Y. 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.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: PRMT2 (human) mapping to 21q22.3.

SOURCE

PRMT2 (2439C4a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to the N-terminal region of PRMT2 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

APPLICATIONS

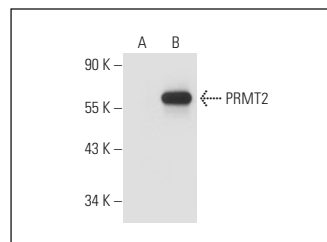
PRMT2 (2439C4a) is recommended for detection of PRMT2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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

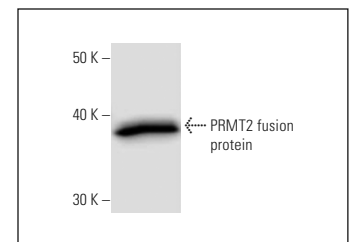
Molecular Weight of PRMT2: 55 kDa.

Positive Controls: PRMT2 (h3): 293T Lysate: sc-158888 or HeLa nuclear extract: sc-2120.

DATA



PRMT2 (2439C4a): sc-81361. Western blot analysis of PRMT2 expression in non-transfected: sc-117752 (A) and human PRMT2 transfected: sc-158888 (B) 293T whole cell lysates.



PRMT2 (2439C4a): sc-81361. Western blot analysis of human recombinant PRMT2 fusion protein.

RESEARCH USE

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