SANTA CRUZ BIOTECHNOLOGY, INC.

JMJD5 (H-21): sc-133701

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The Power to Question

BACKGROUND

JMJD5 (Jumonji domain containing 5) is a nuclear protein that is believed to function as a histone lysine demethylase. Belonging to the Jumonji C-domain-containing histone lysine demethylase (JHDM) family, JMJD5 contains one JMJC (Jumonji C) domain. The *C. elegans* homolog of JMJD5 has been identified as a protein that protects the genome against insertions and deletions. This suggests a potential role for mammalian JMJD5 as a tumor suppressor. Further supporting the role of JMJD5 as a tumor suppressor, the knockdown of JMJD5 expression in mouse fibroblasts can lead to an increased mutation rate and an increased tolerance to MNNG (a DNA methylating agent). This implies that JMJD5 may specifically participate in DNA mismatch repair.

REFERENCES

1. Toyoda, M., Kojima, M. and Takeuchi, T. 2000. Jumonji is a nuclear protein that participates in the negative regulation of cell growth. Biochem. Biophys. Res. Commun. 274: 332-336.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611917. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Jung, J., Mysliwiec, M.R. and Lee, Y. 2005. Roles of Jumonji in mouse embryonic development. Dev. Dyn. 232: 21-32.
4. Takeuchi, T., Watanabe, Y., Takano-Shimizu, T. and Kondo, S. 2006. Roles of Jumonji and Jumonji family genes in chromatin regulation and development. Dev. Dyn. 235: 2449-2459.
5. Suzuki, T., Minehata, K., Akagi, K., Jenkins, N.A. and Copeland, N.G. 2006. Tumor suppressor gene identification using retroviral insertional mutagenesis in Blm-deficient mice. EMBO J. 25: 3422-3431
6. Cui, L., Fan, Q., Cui, L. and Miao, J. 2008. Histone lysine methyltransferases and demethylases in *Plasmodium falciparum*. Int. J. Parasitol. 38: 1083-1097

CHROMOSOMAL LOCATION

Genetic locus: JMJD5 (human) mapping to 16p12.1; Jmjd5 (mouse) mapping to 7 F3.

SOURCE

JMJD5 (H-21) is an affinity purified rabbit polyclonal antibody raised against synthetic JMJD5 peptide of human origin.

PRODUCT

Each vial contains 50 µg IgG in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and <0.02% sucrose.

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.

APPLICATIONS

JMJD5 (H-21) is recommended for detection of JMJD5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for JMJD5 siRNA (h): sc-75359, JMJD5 siRNA (m): sc-75360, JMJD5 shRNA Plasmid (h): sc-75359-SH, JMJD5 shRNA Plasmid (m): sc-75360-SH, JMJD5 shRNA (h) Lentiviral Particles: sc-75359-V and JMJD5 shRNA (m) Lentiviral Particles: sc-75360-V.

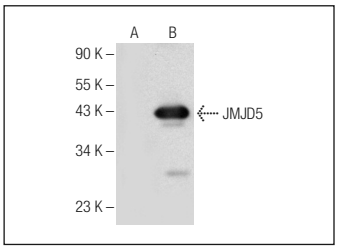
Molecular Weight of JMJD5: 47 kDa.

Positive Controls: JMJD5 (m): 293T Lysate : sc-127027 or human fetal liver tissue extract.

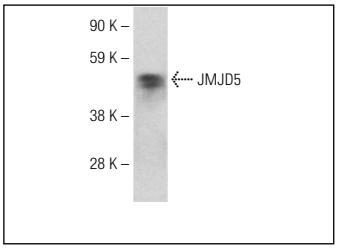
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



JMJD5 (H-21): sc-133701. Western blot analysis of JMJD5 expression in non-transfected: sc-117752 (**A**) and mouse JMJD5 transfected: sc-127027 (**B**) 293T whole cell lysates.



JMJD5 (H-21): sc-133701. Western blot analysis of JMJD5 expression in human fetal liver tissue extract.

PROTOCOLS

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

MONOS Satisfaction Guaranteed

Try **JMJD5 (D-5): sc-377078** or **JMJD5 (G-3): sc-377440**, our highly recommended monoclonal alternatives to JMJD5 (H-21).