

JMJD2B (H-200): sc-67192

BACKGROUND

JMJD2B (JmjC domain-containing histone demethylation protein 3A) is a 1,064 amino acid protein encoded by the human gene JMJD2B. JMJD2B belongs to the JMJD2B histone demethylase family and contains one JmjC domain, one JmjN domain, two PHD-type zinc fingers and two Tudor domains. The two Tudor domains recognize and bind methylated histones and have an interdigitated structure; the unusual fold is required for its ability to bind methylated histone tails. JMJD2B is a histone demethylase that specifically demethylates Lys 9 residues of Histone H3, thereby playing a role in histone code. It does not demethylate Histone H3 Lys 4, H3 Lys 27, H3 Lys 36 or H4 Lys 20, however, and is only able to demethylate trimethylated H3 Lys 9 and has weaker activity than JMJD2A, JMJD2C and JMJD2D. JMJD2B demethylation of lysine residues will generate formaldehyde and succinate. JMJD2B is a ubiquitously expressed nuclear protein.

REFERENCES

1. Katoh, M. and Katoh, M. 2004. Identification and characterization of JMJD2 family genes *in silico*. *Int. J. Oncol.* 24: 1623-1628.
2. Zhang, D., Yoon, H.G. and Wong, J. 2005. JMJD2A is a novel N-CoR-interacting protein and is involved in repression of the human transcription factor achaete scute-like homologue 2 (ASCL2/Hash2). *Mol. Cell. Biol.* 25: 6404-6414.
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5. Whetstine, J.R., Nottke, A., Lan, F., Huarte, M., Smolikov, S., Chen, Z., Spooner, E., Li, E., Zhang, G., Colaiacovo, M. and Shi, Y. 2006. Reversal of histone lysine trimethylation by the JMJD2 family of histone demethylases. *Cell* 125: 467-481.
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7. Adamsen, B.L., Kravik, K.L., Clausen, O.P. and De Angelis, P.M. 2007. Apoptosis, cell cycle progression and gene expression in TP53-depleted HCT116 colon cancer cells in response to short-term 5-Fluorouracil treatment. *Int. J. Oncol.* 31: 1491-1500.

CHROMOSOMAL LOCATION

Genetic locus: JMJD2B (human) mapping to 19p13.3.

SOURCE

JMJD2B (H-200) is a rabbit polyclonal antibody raised against amino acids 471-670 mapping within an internal region of JMJD2B 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.

APPLICATIONS

JMJD2B (H-200) is recommended for detection of JMJD2B of 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)], 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 JMJD2B siRNA (h): sc-62517, JMJD2B shRNA Plasmid (h): sc-62517-SH and JMJD2B shRNA (h) Lentiviral Particles: sc-62517-V.

Molecular Weight of JMJD2B: 122 kDa.

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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Bártová, E., Stixová, L., Galiová, G., Harnicarová Horáková, A., Legartová, S. and Kozubek, S. 2011. Mutant genetic background affects the functional rearrangement and kinetic properties of JMJD2β histone demethylase. *J. Mol. Biol.* 405: 679-695.

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.

PROTOCOLS

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