

# JMJD2B (E-17): sc-54550

## 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., et al. 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.
3. Gray, S.G., et al. 2005. Functional characterization of JMJD2A, a histone deacetylase- and retino-blastoma-binding protein. *J. Biol. Chem.* 280: 28507-28518.
4. Whetstine, J.R., et al. 2006. Reversal of histone lysine trimethylation by the JMJD2 family of histone demethylases. *Cell* 125: 467-481.
5. Fodor, B.D., et al. 2006. JMJD2B antagonizes H3K9 trimethylation at pericentric heterochromatin in mammalian cells. *Genes Dev.* 20: 1557-1562.
6. Katoh, Y. and Katoh, M. 2007. Comparative integromics on JMJD2A, JMJD2B and JMJD2C: preferential expression of JMJD2C in undifferentiated ES cells. *Int. J. Mol. Med.* 20: 269-273.

## CHROMOSOMAL LOCATION

Genetic locus: *Jmjd2b* (mouse) mapping to 17 D.

## SOURCE

JMJD2B (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of JMJD2B of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54550 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

JMJD2B (E-17) is recommended for detection of JMJD2B of mouse and rat 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 (m): sc-62518, JMJD2B shRNA Plasmid (m): sc-62518-SH and JMJD2B shRNA (m) Lentiviral Particles: sc-62518-V.

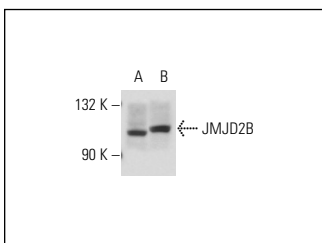
Molecular Weight of JMJD2B: 122 kDa.

Positive Controls: KNRK nuclear extract: sc-2141 or 3611-RF nuclear extract: sc-2143.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



JMJD2B (E-17): sc-54550. Western blot analysis of JMJD2B expression in KNRK (A) and 3611-RF (B) nuclear extracts.

## RESEARCH USE

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

**MONOS**  
Satisfaction  
Guaranteed

Try **JMJD2B (F-12): sc-374241**, our highly recommended monoclonal alternative to JMJD2B (E-17).