SANTA CRUZ BIOTECHNOLOGY, INC.

JMJD2B (F-12): sc-374241

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The Power to Question

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., et al. 2004. Identification and characterization of JMJD2 family genes in silico. Int. J. Oncol. 24: 1623-1628.
2. Zhang, D., et al. 2005. JMJD.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 retinoblastoma-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.

CHROMOSOMAL LOCATION

Genetic locus: KDM4B (human) mapping to 19p13.3; Kdm4b (mouse) mapping to 17 D.

SOURCE

JMJD2B (F-12) is a mouse monoclonal antibody raised against amino acids 1021-1086 mapping at the C-terminus of JMJD2B of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-374241 X, 200 µg/0.1 ml.

JMJD2B (F-12) is available conjugated to agarose (sc-374241 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374241 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374241 PE), fluorescein (sc-374241 FITC), Alexa Fluor® 488 (sc-374241 AF488), Alexa Fluor® 546 (sc-374241 AF546), Alexa Fluor® 594 (sc-374241 AF594) or Alexa Fluor® 647 (sc-374241 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374241 AF680) or Alexa Fluor® 790 (sc-374241 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

JMJD2B (F-12) is recommended for detection of JMJD2B 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 JMJD2B siRNA (h): sc-62517, JMJD2B siRNA (m): sc-62518, JMJD2B shRNA Plasmid (h): sc-62517-SH, JMJD2B shRNA Plasmid (m): sc-62518-SH, JMJD2B shRNA (h) Lentiviral Particles: sc-62517-V and JMJD2B shRNA (m) Lentiviral Particles: sc-62518-V.

JMJD2B (F-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

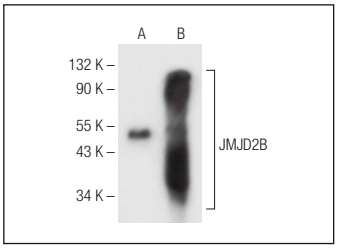
Molecular Weight of JMJD2B: 122 kDa.

Positive Controls: A-10 cell lysate: sc-3806, MDA-MB-231 cell lysate: sc-2232 or JMJD2B (m): 293T Lysate: sc-121157.

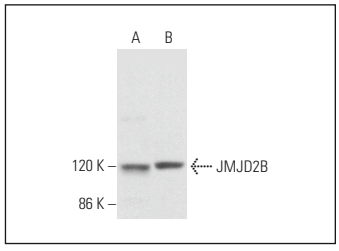
RECOMMENDED SUPPORT REAGENTS

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



JMJD2B (F-12): sc-374241. Western blot analysis of JMJD2B expression in non-transfected: sc-117752 (**A**) and mouse JMJD2B transfected: sc-121157 (**B**) 293T whole cell lysates.



JMJD2B (F-12): sc-374241. Western blot analysis of JMJD2B expression in MDA-MB-231 (**A**) and A-10 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yi, S.J., et al. 2021. The KDM4B-CCAR1-MED1 axis is a critical regulator of osteoclast differentiation and bone homeostasis. Bone Res. 9: 27.

STORAGE

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