SANTA CRUZ BIOTECHNOLOGY, INC.

JMJD2D (F-7): sc-393750

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The Power to Question

BACKGROUND

JMJD2D (jumonji domain-containing protein 2D), also known as JHDM3D or KDM4D, is a 520 amino acid protein that belongs to the JHDM3 histone demethylase family. Localized to the nucleus, JMJD2D functions as a histone demethylase that removes specific methyl residues from Histone H3, thereby playing a crucial role in the histone code. JMJD2D binds iron as a cofactor and contains one JMJC domain and one JMJN domain, both of which are thought to exhibit enzymatic activity during chromatin remodeling events. In addition, JMJD2D forms a complex with the ligand-bound form of the androgen receptor (AR) and, through this interaction, activates AR expression. Overexpression of AR is associated with prostate cancer, suggesting that, via its ability to upregulate AR, JMJD2D may be involved in carcinogenesis.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609766. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Katoh, M. and Katoh, M. 2004. Identification and characterization of JMJD2 family genes in silico. Int. J. Oncol. 24: 1623-1628.
3. Whetstine, J.R., et al. 2006. Reversal of histone lysine trimethylation by the JMJD2 family of histone demethylases. Cell 125: 467-481.
4. Shin, S. and Janknecht, R. 2007. Diversity within the JMJD2 histone demethylase family. Biochem. Biophys. Res. Commun. 353: 973-977.
5. Shin, S. and Janknecht, R. 2007. Activation of androgen receptor by histone demethylases JMJD2A and JMJD2D. Biochem. Biophys. Res. Commun. 359: 742-746.
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: Kdm4d (mouse) mapping to 9 A1.

SOURCE

JMJD2D (F-7) is a mouse monoclonal antibody raised against amino acids 341-510 mapping at the C-terminus of JMJD2D 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-393750 X, 200 µg/0.1 ml.

JMJD2D (F-7) is available conjugated to agarose (sc-393750 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393750 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393750 PE), fluorescein (sc-393750 FITC), Alexa Fluor® 488 (sc-393750 AF488), Alexa Fluor® 546 (sc-393750 AF546), Alexa Fluor® 594 (sc-393750 AF594) or Alexa Fluor® 647 (sc-393750 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393750 AF680) or Alexa Fluor® 790 (sc-393750 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

JMJD2D (F-7) is recommended for detection of JMJD2D of mouse and rat 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 JMJD2D siRNA (m): sc-146325, JMJD2D shRNA Plasmid (m): sc-146325-SH and JMJD2D shRNA (m) Lentiviral Particles: sc-146325-V.

JMJD2D (F-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

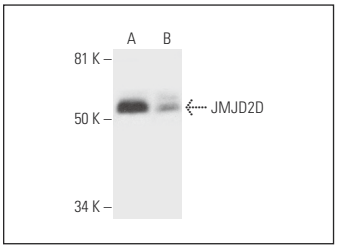
Molecular Weight of JMJD2D: 58 kDa.

Positive Controls: mouse brain extract: sc-2253, NIH/3T3 nuclear extract: sc-2138 or rat brain extract: sc-2392.

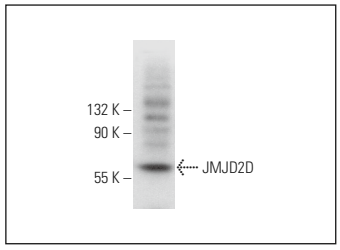
RECOMMENDED SUPPORT REAGENTS

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



JMJD2D (F-7): sc-393750. Western blot analysis of JMJD2D expression in mouse brain (**A**) and rat brain (**B**) tissue extracts.



JMJD2D (F-7): sc-393750. Western blot analysis of JMJD2D expression in NIH/3T3 nuclear extract.

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.