

JMJD2D (G-25): sc-133700

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 JMJD 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

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3. Whetstone, 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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5. Shin, S. and Janknecht, R. 2007. Diversity within the JMJD2 histone demethylase family. *Biochem. Biophys. Res. Commun.* 353: 973-977.
6. Shin, S. and Janknecht, R. 2007. Activation of androgen receptor by histone demethylases JMJD2A and JMJD2D. *Biochem. Biophys. Res. Commun.* 359: 742-746.

CHROMOSOMAL LOCATION

Genetic locus: JMJD2D (human) mapping to 11q21.

SOURCE

JMJD2D (G-25) is an affinity purified rabbit polyclonal antibody raised against synthetic JMJD2D peptide of human origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl 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

JMJD2D (G-25) is recommended for detection of JMJD2D 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), immunohistochemistry (including paraffin-embedded sections) (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 (h): sc-96274, JMJD2D shRNA Plasmid (h): sc-96274-SH and JMJD2D shRNA (h) Lentiviral Particles: sc-96274-V.

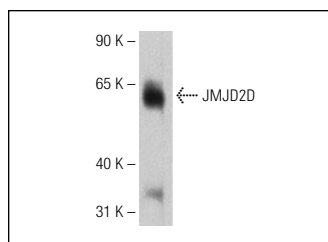
Molecular Weight of JMJD2D: 58 kDa.

Positive Controls: human fetal brain tissue extract, human intestine tissue or human kidney tissue.

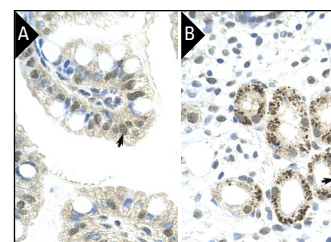
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



JMJD2D (G-25): sc-133700. Western blot analysis of JMJD2D expression in human fetal brain tissue extract.



JMJD2D (G-25): sc-133700. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human intestine tissue (A) showing nuclear and cytoplasmic localization and human kidney tissue (B) showing nuclear and membrane localization.

PROTOCOLS

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