

JMJD7 (D-15): sc-323992

BACKGROUND

A crucial regulator of chromatin dynamics and DNA transcription is the covalent modification and methylation of histones. Generally, methylation of certain lysine residues on Histone H3 and Histone H4 can be associated with transcriptionally active or inactive chromatin. This regulation has profound effects on the expression of genes and is part of an epigenetic memory network that determines cell fate. JMJD7 (jumonji domain-containing protein 7) is a member of a family of JMJC domain-containing histone demethylases that are directly involved in removing methyl residues from distinct and unique lysine residues. These actions are implicated in gene expression and the regulation of cell senescence. JMJC domain-containing histone demethylases are also likely involved in development via their ability to regulate gene expression. JMJD7 contains one JMJC domain and was originally thought to be an alternatively spliced isoform of PLA2G4B.

REFERENCES

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2. Tsukada, Y., Fang, J., Erdjument-Bromage, H., Warren, M.E., Borchers, C.H., Tempst, P. and Zhang, Y. 2006. Histone demethylation by a family of JmjC domain-containing proteins. *Nature* 439: 811-816.
3. Cloos, P.A., Christensen, J., Agger, K., Maiolica, A., Rappsilber, J., Antal, T., Hansen, K.H. and Helin, K. 2006. The putative oncogene GASC1 demethylates tri- and dimethylated lysine 9 on histone H3. *Nature* 442: 307-311.
4. Hong, S., Cho, Y.W., Yu, L.R., Yu, H., Veenstra, T.D. and Ge, K. 2007. Identification of JmjC domain-containing UTX and JMJD3 as histone H3 lysine 27 demethylases. *Proc. Natl. Acad. Sci. USA* 104: 18439-18444.
5. Chang, B., Chen, Y., Zhao, Y. and Bruck, R.K. 2007. JMJD6 is a histone arginine demethylase. *Science* 318: 444-447.

CHROMOSOMAL LOCATION

Genetic locus: JMJD7 (human) mapping to 15q14; Jmjd7 (mouse) mapping to 2 E5.

SOURCE

JMJD7 (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of JMJD7 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.

Blocking peptide available for competition studies, sc-323992 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

JMJD7 (D-15) is recommended for detection of JMJD7 of mouse, rat and 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); non cross-reactive with other JMJD family members.

JMJD7 (D-15) is also recommended for detection of JMJD7 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for JMJD7 siRNA (m): sc-148668, JMJD7 shRNA Plasmid (m): sc-148668-SH and JMJD7 shRNA (m) Lentiviral Particles: sc-148668-V.

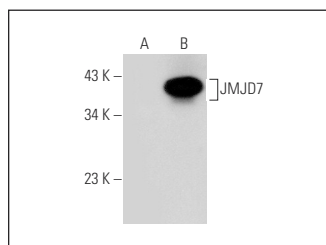
Molecular Weight of JMJD7: 36 kDa.

Positive Controls: JMJD7 (h): 293T Lysate: sc-369095.

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



JMJD7 (D-15): sc-323992. Western blot analysis of JMJD7 expression in non-transfected: sc-117752 (A) and human JMJD7 transfected: sc-369095 (B) 293T whole cell lysates.

RESEARCH USE

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

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Try **JMJD7 (11K2): sc-134351**, our highly recommended monoclonal alternative to JMJD7 (D-15).