

JMJD2C (S-15): sc-104949

BACKGROUND

JMJD2C (Jumonji domain containing 2C), also known as GASC1, KDM4C or JHDM3C, is a nuclear protein that belongs to the Jumonji domain 2 (JMJD2) family of histone demethylases. Functioning as a trimethylation-specific demethylase, JMJD2C demethylates specific lysine residues of Histone H3, thereby converting the trimethylated Histone H3 to its dimethylated form and playing a central role in the histone code. Through its ability to modify histones, JMJD2C increases the rate of cell proliferation and promotes the expression of a variety of proteins. JMJD2C binds iron as a cofactor and contains two Tudor domains through which it interacts with methylated histones. Overexpression of JMJD2C is associated with esophageal squamous cell carcinoma, suggesting a possible role for JMJD2C in carcinogenesis. Two isoforms of JMJD2C exist due to alternative splicing events.

REFERENCES

1. Yang, Z.Q., et al. 2000. Identification of a novel gene, GASC1, within an amplicon at 9p23-24 frequently detected in esophageal cancer cell lines. *Cancer Res.* 60: 4735-4739.
2. Katoh, M. and Katoh, M. 2004. Identification and characterization of JMJD2 family genes in silico. *Int. J. Oncol.* 24: 1623-1628.
3. Cloos, P.A., et al. 2006. The putative oncogene GASC1 demethylates tri- and dimethylated Lysine 9 on Histone H3. *Nature* 442: 307-311.
4. Whetstine, J.R., et al. 2006. Reversal of histone lysine trimethylation by the JMJD2 family of histone demethylases. *Cell* 125: 467-481.
5. Loh, Y.H., et al. 2007. JMJD1A and JMJD2C Histone H3 Lys 9 demethylases regulate self-renewal in embryonic stem cells. *Genes Dev.* 21: 2545-2557.
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: KDM4C (human) mapping to 9p24.1; Kdm4c (mouse) mapping to 4 C3.

SOURCE

JMJD2C (S-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of JMJD2C 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-104949 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

JMJD2C (S-15) is recommended for detection of JMJD2C 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).

JMJD2C (S-15) is also recommended for detection of JMJD2C in additional species, including equine, canine and bovine.

Suitable for use as control antibody for JMJD2C siRNA (h): sc-92765, JMJD2C siRNA (m): sc-146324, JMJD2C shRNA Plasmid (h): sc-92765-SH, JMJD2C shRNA Plasmid (m): sc-146324-SH, JMJD2C shRNA (h) Lentiviral Particles: sc-92765-V and JMJD2C shRNA (m) Lentiviral Particles: sc-146324-V.

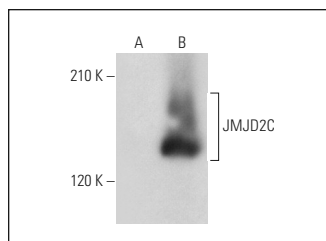
Molecular Weight of JMJD2C: 120 kDa.

Positive Controls: JMJD2C (m): 293T Lysate: sc-125505.

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



JMJD2C (S-15): sc-104949. Western blot analysis of JMJD2C expression in non-transfected: sc-117752 (A) and mouse JMJD2C transfected: sc-125505 (B) 293T whole cell lysates.

RESEARCH USE

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

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Try **JMJD2C (D-4): sc-515767**, our highly recommended monoclonal alternative to JMJD2C (S-15).