SANTA CRUZ BIOTECHNOLOGY, INC.

JMJD2A (T-18): sc-54624

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

JMJD2A (jumonji domain containing 2A), also designated jumonji C domain-containing histone demethylation protein 3A, is a 1,064 amino acid protein encoded by the human gene JMJD2A. JMJD2A belongs to the JHDM3 histone demethylase family and contains one JmjC domain, one JmjN domain, two PHD-type zinc fingers and two Tudor domains. JMJD2A is histone demethylase that specifically demethylates Lys 9 and Lys 36 residues of Histone H3, thereby playing a central role in histone code. It does not demethylate histone H3 Lys 4, H3 Lys 27 nor H4 Lys 20, however, it will demethylate trimethylated H3 Lys 9 and H3 Lys 36 residue, while it has no activity on mono- and dimethylated residues. JMJD2A demethylation of lysine residues will generate formaldehyde and succinate. It also participates in transcriptional repression of ASCL2 and E2F-responsive promoters via the recruitment of histone deacetylases and NCOR1, respectively. JMJD2A is a ubiquitously expressed nuclear protein.

CHROMOSOMAL LOCATION

Genetic locus: KDM4A (human) mapping to 1p34.1; Kdm4a (mouse) mapping to 4 D2.1.

SOURCE

JMJD2A (T-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of JMJD2A 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-54624 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

JMJD2A (T-18) is recommended for detection of JMJD2A 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).

JMJD2A (T-18) is also recommended for detection of JMJD2A in additional species, including equine, canine and bovine.

Suitable for use as control antibody for JMJD2A siRNA (h): sc-62515, JMJD2A siRNA (m): sc-62516, JMJD2A shRNA Plasmid (h): sc-62515-SH, JMJD2A shRNA Plasmid (m): sc-62516-SH, JMJD2A shRNA (h) Lentiviral Particles: sc-62515-V and JMJD2A shRNA (m) Lentiviral Particles: sc-62516-V.

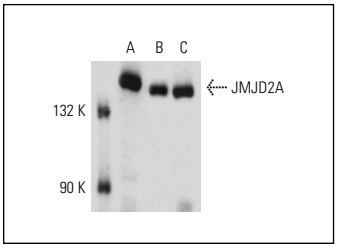
Molecular Weight of JMJD2A: 155 kDa.

Positive Controls: SK-N-MC nuclear extract: sc-2154, Jurkat nuclear extract: sc-2132 and NIH/3T3 nuclear extract: sc-2138.

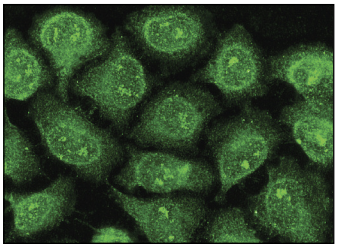
RECOMMENDED SECONDARY REAGENTS

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



JMJD2A (T-18): sc-54624. Western blot analysis of JMJD2A expression in SK-N-MC (**A**), Jurkat (**B**) and NIH/3T3 (**C**) nuclear extracts.



JMJD2A (T-18): sc-54624. Immunofluorescence staining of methanol-fixed HeLa cells showing nucleolar, nuclear and cytoplasmic localization.

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.

PROTOCOLS

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