

# JMJD3 (N-24): sc-130157

## BACKGROUND

JMJD3 (jumonji domain containing 3), also known as KDM6B (lysine demethylase 6B), is a 1,679 amino acid nuclear protein that contains one JMJC domain and belongs to the highly conserved JMJC domain-containing protein family. Functioning as a histone demethylase, JMJD3 uses iron and ascorbate as cofactors to demethylate dimethylated and trimethylated Lys 27 residues of Histone H3, thereby playing an important role in the modification of the histone code. Additionally, JMJD3 regulates posterior development and is involved in the inflammatory response, specifically by mediating macrophage differentiation. JMJD3 is also thought to control the expression of neurogenesis-related proteins and, via this regulatory mechanism, may be necessary for neural commitment during early development. Two isoforms of JMJD3 exist due to alternative splicing events.

## REFERENCES

1. Cousin, P., et al. 2000. Physical map of 17p13 and the genes adjacent to p53. *Genomics* 63: 60-68.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611577. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Xiang, Y., et al. 2007. JMJD3 is a Histone H3K27 demethylase. *Cell Res.* 17: 850-857.
4. Agger, K., et al. 2007. UTX and JMJD3 are Histone H3K27 demethylases involved in HOX gene regulation and development. *Nature* 449: 731-734.
5. Hong, S., et al. 2007. Identification of JMJC domain-containing UTX and JMJD3 as Histone H3 Lysine 27 demethylases. *Proc. Natl. Acad. Sci. USA* 104: 18439-18444.

## CHROMOSOMAL LOCATION

Genetic locus: JMJD3 (human) mapping to 17p13.1.

## SOURCE

JMJD3 (N-24) is a purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of JMJD3 of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

JMJD3 (N-24) is recommended for detection of JMJD3 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).

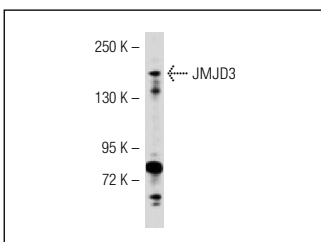
Suitable for use as control antibody for JMJD3 siRNA (h): sc-93819, JMJD3 shRNA Plasmid (h): sc-93819-SH and JMJD3 shRNA (h) Lentiviral Particles: sc-93819-V.

Molecular Weight of JMJD3: 180 kDa.

## 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



JMJD3 (N-24): sc-130157. Western blot analysis of JMJD3 expression in 293 whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Vernimmen, D., et al. 2011. Polycomb eviction as a new distant enhancer function. *Genes Dev.* 25: 1583-1588.
2. Lee, K., et al. 2012. Molecular mechanism of Jmjd3-mediated interleukin-6 gene regulation in endothelial cells underlying spinal cord injury. *J. Neurochem.* 122: 272-282.
3. Das, A., et al. 2013. Proteomic changes induced by histone demethylase JMJD3 in TNF  $\alpha$ -treated human monocytic (THP-1) cells. *Mol. Immunol.* 56: 113-122.