10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

JMJD3 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1022A

Product Information

Application	WB, IHC-P, IF, E
Primary Accession	O15054
Other Accession	Q5NCY0
Reactivity	Human
Predicted	Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	176632
Antigen Region	1-30

Additional Information

Gene ID	23135
Other Names	Lysine-specific demethylase 6B, 11411-, JmjC domain-containing protein 3, Jumonji domain-containing protein 3, Lysine demethylase 6B, KDM6B, JMJD3, KIAA0346
Target/Specificity	This JMJD3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human JMJD3.
Dilution	WB~~1:1000 IHC-P~~1:100~500 IF~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	JMJD3 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

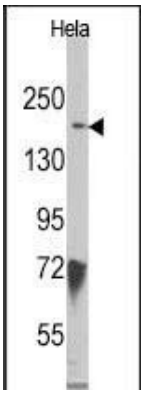
Name	KDM6B
Synonyms	JMJD3, KIAA0346

Function	Histone demethylase that specifically demethylates 'Lys-27' of histone H3, thereby playing a central role in histone code (PubMed:17713478, PubMed:17825402, PubMed:17851529, PubMed:18003914). Demethylates trimethylated and dimethylated H3 'Lys-27' (PubMed:17713478, PubMed:17825402, PubMed:17851529, PubMed:18003914). Plays a central role in regulation of posterior development, by regulating HOX gene expression (PubMed:17851529). Involved in inflammatory response by participating in macrophage differentiation in case of inflammation by regulating gene expression and macrophage differentiation (PubMed:17825402). Plays a demethylase-independent role in chromatin remodeling to regulate T-box family member-dependent gene expression by acting as a link between T-box factors and the SMARCA4- containing SWI/SNF remodeling complex (By similarity).
Cellular Location	Nucleus.

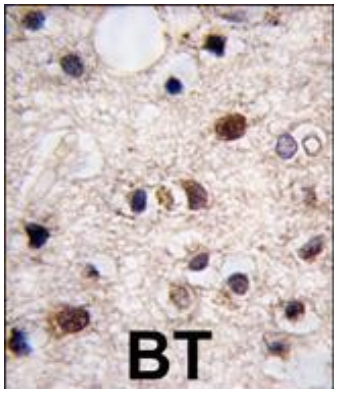
Background

Covalent modification of histones plays critical role in regulating chromatin structure and transcription. While most covalent histone modifications are reversible, only recently has it been established that methyl groups are subject to enzymatic removal from histones. A family of novel JmjC domain-containing histone demethylation (JHDM) enzymes have been identified that perform this specific function. Histone demethylation by JHDM proteins requires cofactors Fe(II) and alpha-ketoglutarate. Family members include JHDM1 (demethylating histone 3 at lysine 36), and JHDM2A as well as JMJD2CH3K9 (both of which demethylate histone 3 at lysine 9). Contributions of histone demethylase activity to tumor development, decreases in cell proliferation, and hormone-dependent transcriptional activation have been observed.

Images

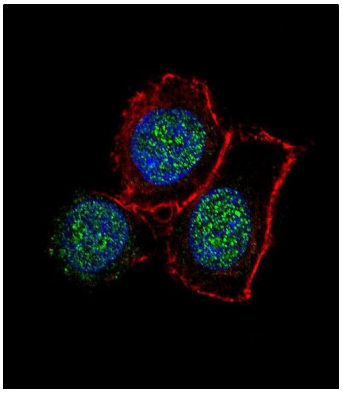


Western blot analysis of anti-JMJD3 (N-term) Pab (AP1022a) in Hela cell line lysates. JMJD3 (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human brain tissue reacted with JMJD3 (N-term) (Cat.#AP1022a), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

Confocal immunofluorescent analysis of JMJD3 Antibody (N-term) (Cat#AP1022a) with Hela cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green). Actin



filaments have been labeled with Alexa Fluor 555 phalloidin (red).DAPI was used to stain the cell nuclear (blue).

Citations

- JMJD3 is involved in neutrophil membrane proteinase 3 overexpression during the hyperinflammatory response in early sepsis.
- Structure of Nascent Chromatin Is Essential for Hematopoietic Lineage Specification.
- Cyclical DNA Methylation and Histone Changes Are Induced by LPS to Activate COX-2 in Human Intestinal Epithelial Cells.
- Generation of an anti-EpCAM antibody and epigenetic regulation of EpCAM in colorectal cancer.
- Histone demethylase KDM6B promotes epithelial-mesenchymal transition.
- Molecular mechanism of Jmjd3-mediated interleukin-6 gene regulation in endothelial cells underlying spinal cord injury.
- Sulforaphane suppresses polycomb group protein level via a proteasome-dependent mechanism in skin cancer cells.
- Evidence for alteration of EZH2, BMI1, and KDM6A and epigenetic reprogramming in human papillomavirus type 16 E6/E7-expressing keratinocytes.
- Chromatin and transcriptional signatures for Nodal signaling during endoderm formation in hESCs.
- Jmjd3 activates Mash1 gene in RA-induced neuronal differentiation of P19 cells.
- Epigenetic analysis of KSHV latent and lytic genomes.
- Oncogenic RAS alters the global and gene-specific histone modification pattern during epithelial-mesenchymal transition in colorectal carcinoma cells.
- Epithelial cell adhesion molecule regulation is associated with the maintenance of the undifferentiated phenotype of human embryonic stem cells.
- Abnormal expression pattern of histone demethylases in CD4(+) T cells of MRL/lpr lupus-like mice.
- Epigenetic regulation of the alternatively activated macrophage phenotype.