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

JMJD1A Antibody

Catalog # ASC10966

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q9Y4C1
Other Accession	NP_060903, 20357522
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	147341
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	JMJD1A antibody can be used for detection of JMJD1A by Western blot at 1 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	55818
Other Names	Lysine-specific demethylase 3A, 1.14.11.-, JmjC domain-containing histone demethylation protein 2A, Jumonji domain-containing protein 1A, KDM3A, JHDM2A, JMJD1, JMJD1A, KIAA0742, TSGA
Target/Specificity	KDM3A; This antibody will not cross-react with JMJD1B or JMJD1C.
Reconstitution & Storage	JMJD1A antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	JMJD1A Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KDM3A
Synonyms	JHDM2A, JMJD1, JMJD1A, KIAA0742, TSGA
Function	Histone demethylase that specifically demethylates 'Lys-9' of histone H3, thereby playing a central role in histone code. Preferentially demethylates mono- and dimethylated H3 'Lys-9' residue, with a preference for dimethylated residue, while it has weak or no activity on trimethylated H3 'Lys-9'. Demethylation of Lys residue generates formaldehyde and succinate. Involved in hormone-dependent transcriptional activation, by participating in

	recruitment to androgen-receptor target genes, resulting in H3 'Lys-9' demethylation and transcriptional activation. Involved in spermatogenesis by regulating expression of target genes such as PRM1 and TNP1 which are required for packaging and condensation of sperm chromatin. Involved in obesity resistance through regulation of metabolic genes such as PPARA and UCP1.
Cellular Location	Cytoplasm. Nucleus. Note=Nuclear in round spermatids. When spermatids start to elongate, localizes to the cytoplasm where it forms distinct foci which disappear in mature spermatozoa (By similarity).

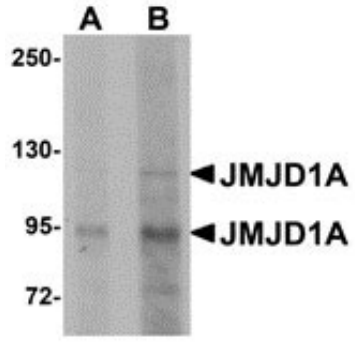
Background

JMJD1A Antibody: The jumonji domain containing 1A protein (JMJD1A) was originally discovered as a testes specific gene, but has been found to be expressed in numerous tissues. JMJD1A is a histone demethylase and specifically demethylates mono- and dimethyl-H3K9. It has also been found to be a novel interaction partner with ER71, a transcription factor expressed in the testes of adult mice and during embryogenesis. JMJD1A is also a downstream gene of STAT3, a protein that has been found to be important in the maintenance of mouse embryonic stem (mES) cells, and decreased JMJD1A expression correlated with the differentiation of cultured mES cells following the removal of the cytokine LIF. These findings suggest that JMJD1A might be a critical signaling molecule underlying the maintenance of pluripotency in embryonic stem cells. At least two isoforms of JMJD1A are known to exist.

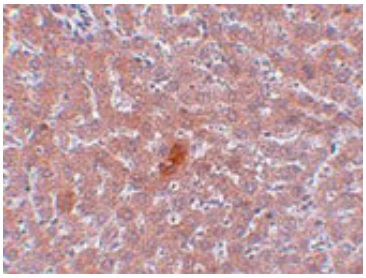
References

Hoog C, Schalling M, Grunder-Brundell E, et al. Analysis of a murine male germ cell-specific transcript that encodes a putative zinc finger protein. Mol. Reprod. Dev.1991; 30:173-81.
Sar A, Ponjevic D, Nguyen M, et al. Identification and characterization of demethylase JMJD1A as a gene upregulated in the human cellular response to hypoxia. Cell Tissue Res.2009; 337:223-34.
Yamane K, Toumazou C, Tsukada Y, et al. JHDM2A, a JmjC-containing H3K9 demethylase, facilitates transcription activation by androgen receptor. Cell2006; 125:483-95.
Knebel J, De Haro L, and Janknecht R. Repression of transcription by TSGA/Jmjd1a, a novel interaction partner of the ETS protein ER71. J. Cell Biochem.2006; 99:319-29.

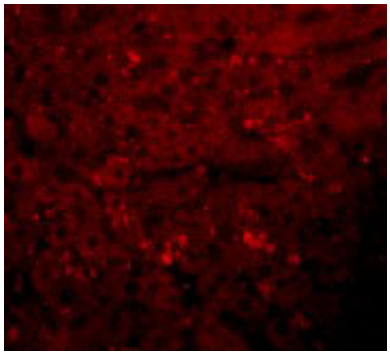
Images



Western blot analysis of JMJD1A in mouse liver tissue lysate with JMJD1A antibody at (A) 1 and (B) 2 µg/mL.



Immunohistochemistry of JMJD1A in rat liver tissue with JMJD1A antibody at 5 µg/mL.



Immunofluorescence of JMJD1A in Rat Liver cells with JMJD1A antibody at 20 µg/mL.