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KDM3A Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1485a

Product Information

Application	WB, IHC, E
Primary Accession	Q9Y4C1
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	1E12
Isotype	IgG1
Calculated MW	147341
Description	This gene encodes a zinc finger protein that contains a jumonji domain and may play a role in hormone-dependent transcriptional activation. JMJD1A functions as a mono- and dimethylation-specific demethylase, binding iron and □-ketoglutarate as cofactors and demethylating Lysine 9 of Histone H3. This suggests that JMJD1A plays a central role in the histone code and participates in nuclear hormone receptor-based transcriptional regulation. In addition, JMJD1A plays an important role in the regulation of cell growth during development and in chromatin regulation. JMJD1A directly regulates the expression of TNP1 and Protamine 1 (proteins required for the proper packaging and condensation of sperm chromatin) and, therefore, plays an essential role in spermatogenesis.
Immunogen	Purified recombinant fragment of human KDM3A expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

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
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	KDM3A 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).

References

1. DNA Res. 1998 Oct 30;5(5):277-86. 2. Proc Natl Acad Sci U S A. 2004 Aug 17;101(33):12130-5. 3. Nature. 2005 Apr 7;434(7034):724-31.

Images

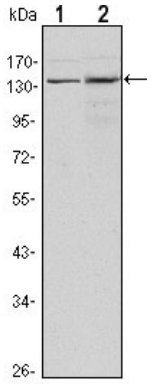

Figure 1: Western blot analysis using KDM3A mouse mAb against Hela (1) and HepG2 (2) cell lysate.

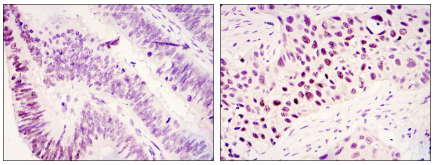

Figure 2: Immunohistochemical analysis of paraffin-embedded colonic cancer tissues (left) and lung cancer tissues (right) using KDM3A mouse mAb with DAB staining.