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

JMJD5 Antibody

Catalog # ASC10972

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q8N371
Other Accession	NP_001138820, 223942018
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	47270
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	JMJD5 antibody can be used for detection of JMJD5 by Western blot at 1 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	79831
Other Names	Lysine-specific demethylase 8, 1.14.11.27, JmjC domain-containing protein 5, Jumonji domain-containing protein 5, KDM8, JMJD5
Target/Specificity	JMJD5;
Reconstitution & Storage	JMJD5 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	JMJD5 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KDM8
Function	Bifunctional enzyme that acts both as an endopeptidase and 2-oxoglutarate-dependent monooxygenase (PubMed:28847961, PubMed:28982940, PubMed:29459673, PubMed:29563586). Endopeptidase that cleaves histones N-terminal tails at the carboxyl side of methylated arginine or lysine residues, to generate 'tailless nucleosomes', which may trigger transcription elongation (PubMed:28847961, PubMed:28982940, PubMed:29459673). Preferentially recognizes and cleaves monomethylated and dimethylated arginine residues of histones H2, H3 and H4. After initial cleavage, continues to digest histones tails via its aminopeptidase activity

	(PubMed:28847961, PubMed:29459673). Upon DNA damage, cleaves the N-terminal tail of histone H3 at monomethylated lysine residues, preferably at monomethylated 'Lys-9' (H3K9me1). The histone variant H3F3A is the major target for cleavage (PubMed:28982940). Additionally, acts as a Fe(2+) and 2-oxoglutarate- dependent monooxygenase, catalyzing (R)-stereospecific hydroxylation at C-3 of 'Arg-137' of RPS6 and 'Arg-141' of RCCD1, but the biological significance of this activity remains to be established (PubMed:29563586). Regulates mitosis through different mechanisms: Plays a role in transcriptional repression of satellite repeats, possibly by regulating H3K36 methylation levels in centromeric regions together with RCCD1. Possibly together with RCCD1, is involved in proper mitotic spindle organization and chromosome segregation (PubMed:24981860). Negatively regulates cell cycle repressor CDKN1A/p21, which controls G1/S phase transition (PubMed:24740926). Required for G2/M phase cell cycle progression. Regulates expression of CCNA1/cyclin-A1, leading to cancer cell proliferation (PubMed:20457893). Also, plays a role in regulating alpha-tubulin acetylation and cytoskeletal microtubule stability involved in epithelial to mesenchymal transition (PubMed:28455245). Regulates the circadian gene expression in the liver (By similarity). Represses the transcriptional activator activity of the CLOCK-BMAL1 heterodimer in a catalytically-independent manner (PubMed:30500822). Negatively regulates the protein stability and function of CRY1; required for AMPK-FBXL3-induced CRY1 degradation (PubMed:30500822).
Cellular Location	Nucleus. Chromosome Note=Colocalizes with trimethylated 'Lys-9' of histone H3 (H3K9me3)
Tissue Location	Weakly expressed in most cells. Highly expressed in breast cancer cells (PubMed:20457893). Expressed in embryonic stem cells (PubMed:24740926).

Background

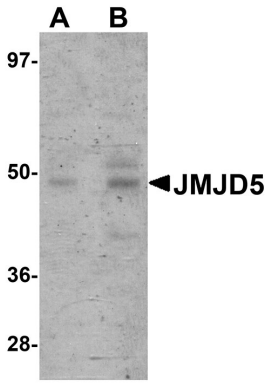
JMJD5 Antibody: The jumonji domain-containing protein (JMJD) family is defined by the presence of the JmjC domain that is observed in several diverse species. While several JMJD proteins have been identified as being involved in chromatin regulation, histone demethylation and development, the function of JMJD5 has not been identified. JMJD5 is expressed in multiple tissues.

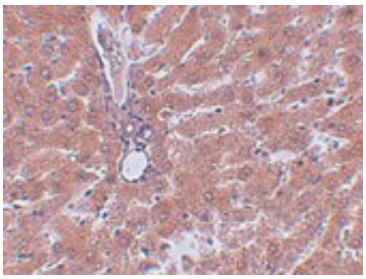
References

Takeuchi T, Watanabe Y, Takano-Shimizu T, et al. Roles of jumonji and jumonji family genes in chromatin regulation and development. Dev. Dyn.2006; 235:2449-59.

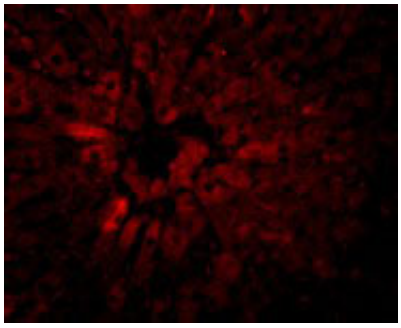
Images

Western blot analysis of JMJD5 in human liver tissue lysate with JMJD5 antibody at (A) 1 and (B) 2 µg/mL.





Immunohistochemistry of JMJD5 in rat liver tissue with JMJD5 antibody at 2.5 µg/mL.



Immunofluorescence of JMJD5 in Rat Liver cells with JMJD5 antibody at 20 µg/mL.