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JMJD5 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP10986a

Product Information

Application	WB, E
Primary Accession	Q8N371
Other Accession	NP_001138820.1, NP_079049.2
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB24972
Calculated MW	47270
Antigen Region	36-63

Additional Information

Gene ID	79831
Other Names	Lysine-specific demethylase 8, JmjC domain-containing protein 5, Jumonji domain-containing protein 5, KDM8, JMJD5
Target/Specificity	This JMJD5 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 36-63 amino acids from the N-terminal region of human JMJD5.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	JMJD5 Antibody (N-term) 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

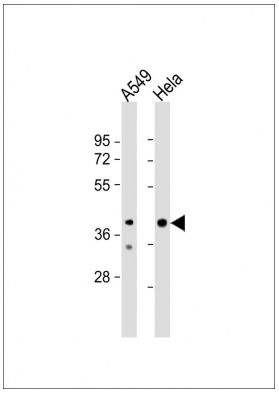
This gene likely encodes a histone lysine demethylase. Studies of a similar protein in mouse indicate a potential role for this protein as a tumor suppressor. Alternatively spliced transcript variants have been described.

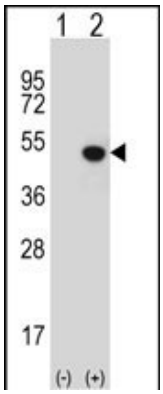
References

Hsia, D.A., et al. Proc. Natl. Acad. Sci. U.S.A. 107(21):9671-9676(2010)
Shi, Y. Nat. Rev. Genet. 8(11):829-833(2007)
Suzuki, T., et al. EMBO J. 25(14):3422-3431(2006)

Images

All lanes : Anti-JMJD5 Antibody (N-term) at 1:1000 dilution Lane 1: A549 whole cell lysate Lane 2: Hela whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 47 kDa Blocking/Dilution buffer: 5% NFDM/TBST.





Western blot analysis of JMJD5 (arrow) using rabbit polyclonal JMJD5 Antibody (N-term) (Cat. #AP10986a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the JMJD5 gene.