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JMJD6 Rabbit pAb

Catalog # AP96719

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q6NYC1
Other Accession	Q6NYC1
Reactivity	Rat, Mouse
Predicted	Pig, Human, Rabbit, Zebrafish, Chicken, Dog, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	46462
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human JMJD6
Epitope Specificity	261-360/403
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the JMJD6 family. Contains 1 JmjC domain.
SUBUNIT	Interacts with LUC7L2, LUC7L3 and U2AF2/U2AF65.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a nuclear protein with a JmjC domain. JmjC domain-containing proteins are predicted to function as protein hydroxylases or histone demethylases. This protein was first identified as a putative phosphatidylserine receptor involved in phagocytosis of apoptotic cells; however, subsequent studies have indicated that it does not directly function in the clearance of apoptotic cells, and questioned whether it is a true phosphatidylserine receptor. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2008].

Additional Information

Gene ID	23210
Other Names	PTDSR; PSR; PTDSR1; 5730436I23Rik; D11Ertd195e; PtdSerR; mKIAA0585; jmjd6a; zfpsr; zgc:66264; JMJD6_CHICK; JMJD6; Histone arginine demethylase JMJD6; JmjC domain-containing protein 6; Jumonji domain-containing protein 6; Lysyl-hydroxylase JMJD6; Peptide-lysine 5-dioxygenase JMJD6; Phosphatidylserine receptor (Protein PTDSR); 1.14.11.-; JMJD6_BOVIN; JMJD6_HUMAN; KIAA0585; JMJD6_MOUSE; JMJD6_PONAB; JMJD6_RAT; JMJD6_DANRE; Phosphatidylserine receptor (Protein PTDSR | zfpsr); jumonji domain containing 6, arginine demethylase and lysine hydroxylase; phosphatidylserine receptor; jumonji domain containing 6
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500

Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	JMJD6 (HGNC:19355)
Function	Dioxygenase that can both act as a arginine demethylase and a lysyl-hydroxylase (PubMed:17947579, PubMed:20684070, PubMed:21060799, PubMed:22189873, PubMed:24498420). Acts as a lysyl-hydroxylase that catalyzes 5-hydroxylation on specific lysine residues of target proteins such as U2AF2/U2AF65 and LUC7L2. Regulates RNA splicing by mediating 5-hydroxylation of U2AF2/U2AF65, affecting the pre-mRNA splicing activity of U2AF2/U2AF65 (PubMed:19574390). Hydroxylates its own N-terminus, which is required for homooligomerization (PubMed:22189873). Plays a role in the regulation of nucleolar liquid- liquid phase separation (LLPS) by post-translationally modifying LIAT1 at its lysine-rich domain which inhibits LIAT1 nucleolar targeting (By similarity). In addition to peptidyl-lysine 5-dioxygenase activity, may act as an RNA hydroxylase, as suggested by its ability to bind single strand RNA (PubMed:20679243, PubMed:29176719). Also acts as an arginine demethylase which preferentially demethylates asymmetric dimethylation (PubMed:17947579, PubMed:24360279, PubMed:24498420). Demethylates histone H3 at 'Arg-2' (H3R2me) and histone H4 at 'Arg-3' (H4R3me), including mono-, symmetric di- and asymmetric dimethylated forms, thereby playing a role in histone code (PubMed:17947579, PubMed:24360279). However, histone arginine demethylation may not constitute the primary activity in vivo (PubMed:17947579, PubMed:21060799, PubMed:22189873). In collaboration with BRD4, interacts with the positive transcription elongation factor b (P-TEFb) complex in its active form to regulate polymerase II promoter-proximal pause release for transcriptional activation of a large cohort of genes. On distal enhancers, so called anti-pause enhancers, demethylates both histone H4R3me2 and the methyl cap of 7SKsnRNA leading to the dismissal of the 7SKsnRNA:HEXIM1 inhibitor complex. After removal of repressive marks, the complex BRD4:JMJD6 attract and retain the P-TEFb complex on chromatin, leading to its activation, promoter-proximal polymerase II pause release, and transcriptional activation (PubMed:24360279). Demethylates other arginine methylated- proteins such as ESR1 (PubMed:24498420). Has no histone lysine demethylase activity (PubMed:21060799). Required for differentiation of multiple organs during embryogenesis. Acts as a key regulator of hematopoietic differentiation: required for angiogenic sprouting by regulating the pre-mRNA splicing activity of U2AF2/U2AF65 (By similarity). Seems to be necessary for the regulation of macrophage cytokine responses (PubMed:15622002).
Cellular Location	Nucleus, nucleoplasm. Nucleus, nucleolus. Cytoplasm. Note=Mainly found throughout the nucleoplasm outside of regions containing heterochromatic DNA, with some localization in nucleolus. During mitosis, excluded from the nucleus and reappears in the telophase of the cell cycle.
Tissue Location	Highly expressed in the heart, skeletal muscle and kidney. Expressed at moderate or low level in brain, placenta, lung, liver, pancreas, spleen, thymus, prostate, testis and ovary. Up- regulated in many patients with chronic pancreatitis. Expressed in nursing thymic epithelial cells.

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