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JMJD6 (PTDSR) Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1042a

Product Information

Application	WB, E
Primary Accession	Q6AYK2
Other Accession	Q9ERI5, Q6NYC1, Q5ZMK5, Q58DS6
Reactivity	Human, Mouse, Rat
Predicted	Chicken, Bovine, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB10820
Calculated MW	46540
Antigen Region	1-30

Additional Information

Gene ID	360665
Other Names	Bifunctional arginine demethylase and lysyl-hydroxylase JMJD6, 11411-, 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, Jmjd6, Ptdsr
Target/Specificity	This JMJD6 (PTDSR) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human JMJD6 (PTDSR).
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 prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	JMJD6 (PTDSR) Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Jmjd6

Synonyms	Ptdsr
Function	Dioxygenase that can both act as a arginine demethylase and a lysyl-hydroxylase. 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. Hydroxylates its own N-terminus, which is required for homooligomerization (By similarity). 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. Also acts as an arginine demethylase which preferentially demethylates asymmetric dimethylation. 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. However, histone arginine demethylation may not constitute the primary activity in vivo. 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. Demethylates other arginine methylated- proteins such as ESR1. Has no histone lysine demethylase activity (By similarity). 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 (By similarity).
Cellular Location	Nucleus, nucleoplasm {ECO:0000250|UniProtKB:Q6NYC1}. Nucleus, nucleolus {ECO:0000250|UniProtKB:Q6NYC1}. Cytoplasm {ECO:0000250|UniProtKB:Q6NYC1}. 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 {ECO:0000250|UniProtKB:Q6NYC1}

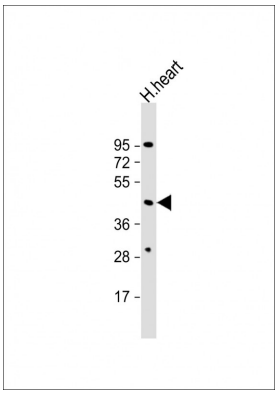
Background

Also known as JmjC domain-containing protein 6. This gene encodes a nuclear protein with a JmjC domain. JmjC domain-containing proteins are predicted to function as protein hydroxylases or histone demethylases. It functions in differentiation of multiple tissues during development, and in anti-inflammatory cytokine signaling. This protein was first identified as a putative phosphatidylserine receptor involved in phagocytosis of apoptotic cells; however, subsequent studies have suggested that the protein may cross-react with a monoclonal antibody that recognizes the phosphatidylserine receptor and does not directly function in the clearance of apoptotic cells.

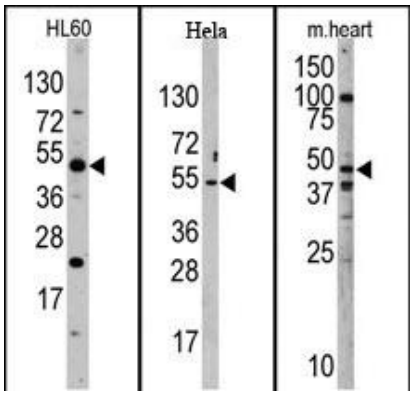
References

Vandivier, R.W., et al., J. Clin. Invest. 109(5):661-670 (2002).
Fadok, V.A., et al., Nature 405(6782):85-90 (2000).

Images



Anti-PTDSR Antibody (N-term) at 1:1000 dilution + human heart 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 anti-PTDSR (N-term) Pab (RB10820) in mouse heart, Hela, and HL60 cell line lysates. PTDSR (N-term)(arrow) was detected using the purified Pab.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.