

JMJD6 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV11106**Specification**

JMJD6 Antibody - Product Information

Application	WB
Primary Accession	Q6NYC1
Reactivity	Human, Mouse, Opossum, Chimpanzee, Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	46462

JMJD6 Antibody - Additional Information**Gene ID** 23210

Positive Control

Application & Usage

Western blot: Human brain lysate, mouse brain lysate
Western blot: 0.25-1.0 µg/ml. However, the optimal conditions should be determined individually.**Other Names**

Jumonji Domain Containing 6; PTDSR

Target/Specificity

JMJD6

Antibody Form

Liquid

Appearance

Colorless liquid

Formulation

50 µg of antibody in 100 µl PBS containing 0.05% BSA and 0.05% sodium salt.

Handling

The antibody solution should be gently mixed before use.

Reconstitution & Storage

-20 °C

Background Descriptions**Precautions**

JMJD6 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

JMJD6 Antibody - Protein Information

Name JMJD6 ([HGNC:19355](#))

Function

Dioxygenase that can both act as a arginine demethylase and a lysyl-hydroxylase (PubMed:24498420, PubMed:17947579, PubMed:20684070, PubMed:21060799, PubMed:22189873). 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:24498420, PubMed:24360279). 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.

JMJD6 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

JMJD6 Antibody - Images**JMJD6 Antibody - Background**

Tudor domains are small protein structural motifs of about ~50 amino acids related to the “royal family” of methyl readers, which also includes chromo, MBT, PWWP, and Agenet-like domains. Tudor domains occur either alone, in tandem, or with other domains and are found in many proteins that are involved in RNA metabolism, germ cell development, transposon silencing, DNA damage response, histone modification, and chromatin remodeling. The tudor domains recognize symmetric methylated arginine or methylated lysine residues. JMJD6 is a 403 amino acid nuclear protein lysyl-hydroxylase that has been reported to have arginine demethylase activity for histone H3 at ‘Arg-2’ and histone H4 at ‘Arg-3’. JMJD6 has been suggested to function in the differentiation of multiple organs during embryogenesis and regulate hematopoietic differentiation and macrophage cytokine responses. First identified as a putative phosphatidylserine receptor involved in phagocytosis of apoptotic cells, JMJD6 was later indicated not to directly function in the clearance of apoptotic cells. It is ubiquitously expressed in most tissues and is upregulated in patients with chronic pancreatitis and upon cytokine treatment, but not upon TNF- α treatment.