

**JMJD1B (C6D12) Rabbit mAb**

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IHC-P	H Mk	Endogenous	220	Rabbit IgG	#Q7LBC6	51780

**Product Usage Information****Application**

Western Blotting  
Immunoprecipitation  
Immunohistochemistry (Paraffin)

**Dilution**

1:1000  
1:50  
1:50

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

**Specificity/Sensitivity**

JMJD1B (C6D12) Rabbit mAb detects endogenous levels of JMJD1B protein (all three isoforms). This antibody does not cross react with other Jumonji C proteins, including HR, JMJD1A and JMJD1C.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser779 of the human JMJD1B protein.

**Background**

The methylation state of lysine residues in histone proteins is a major determinant of the formation of active and inactive regions of the genome and is crucial for the proper programming of the genome during development (1,2). Jumonji C (JmjC) domain-containing proteins represent the largest class of potential histone demethylase proteins (3). The JmjC domain of several proteins has been shown to catalyze the demethylation of mono-, di-, and tri-methyl lysine residues via an oxidative reaction that requires iron and  $\alpha$ -ketoglutarate (3). Based on homology, both humans and mice contain at least 30 such proteins, which can be divided into seven separate families (3). The JMJD1 (Jumonji domain-containing protein 1) family, also known as JHDM2 (JmjC domain-containing histone demethylation protein 2) family, contains four members: hairless (HR), JMJD1A/JHDM2A, JMJD1B/JHDM2B, and JMJD1C/JHDM2C. Hairless is expressed in the skin and brain and acts as a co-repressor of the thyroid hormone receptor (4-6). Mutations in the hairless gene cause alopecia in both mice and humans (4,5). JMJD1A is expressed in meiotic and post-meiotic male germ cells, contributes to androgen receptor-mediated gene regulation, and is required for spermatogenesis (7-9). It has also been identified as a downstream target of OCT4 and STAT3 and is critical for the regulation of self-renewal in embryonic stem cells (10,11). JMJD1B is a more widely expressed family member and is frequently deleted in myeloid leukemia (12). JMJD1C (also known as TRIP8) is a co-factor of both the androgen and thyroid receptors and has a potential link to autism (13-15). Members of the JMJD1/JHDM2 family have been shown to demethylate mono-methyl and di-methyl histone H3 (Lys9) (3,8).

**Background References**

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**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin)

**Cross-Reactivity Key**

**H:** Human **Mk:** Monkey

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