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#3314

## JMJD1B (C69G2) Rabbit mAb

For Research Use Only. Not for Use in Diagnostic Procedures.

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

### Product Usage Information

The CUT&RUN dilution was determined using CUT&RUN Assay Kit #86652.

#### Application

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:25
Immunofluorescence (Immunocytochemistry)	1:200
CUT&RUN	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 (C69G2) 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 Thr579 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).

<b>Western Blot Buffer</b>	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.
<b>Applications Key</b>	<b>W:</b> Western Blotting <b>IP:</b> Immunoprecipitation <b>IF-IC:</b> Immunofluorescence (Immunocytochemistry) <b>C&amp;R:</b> CUT&RUN
<b>Cross-Reactivity Key</b>	<b>H:</b> Human <b>Mk:</b> Monkey
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