

#3314 Store at -20°C

JMJD1B (C69G2) Rabbit mAb



✓ 100 µl
(10 western blots)

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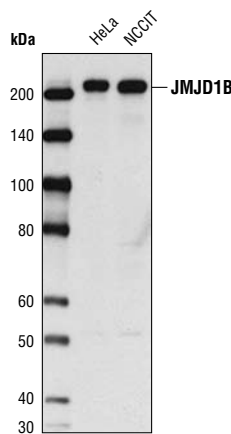
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IF-IC Endogenous	H, Mk	220 kDa	Rabbit IgG**

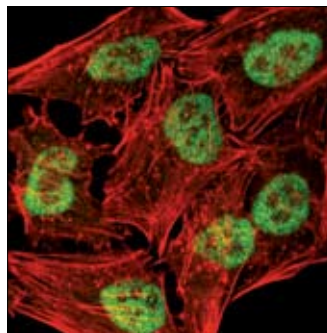
Background: The methylation state of lysine residues in histone proteins is a major determinant of the formation of active and inactive regions of the genome and is crucial for the proper programming of the genome during development (1,2). Jumonji C (JmjC) domain-containing proteins represent the largest 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 α -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, 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).

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 (KLH-coupled) derived from the sequence of the human JMJD1B protein.



Western blot analysis of extracts from HeLa and NCCIT cell lines using JMJD1B (C69G2) Rabbit mAb.



Confocal immunofluorescent analysis of HeLa cells using JMJD1B (C69G2) Rabbit mAb (green). Actin filaments have been labeled with DY-554 phalloidin (red).

Entrez-Gene ID #51780
Swiss-Prot Acc. #Q7LBC6

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.

*Species cross-reactivity is determined by Western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western Blotting	1:1000
Immunoprecipitation	1:25
Immunofluorescence (IF-IC)	1:200

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

- (1) Kubicek, S. et al. (2006) *Ernst Schering Res Found Workshop*, 1-27.
- (2) Lin, W. and Dent, S.Y. (2006) *Curr Opin Genet Dev* 16, 137-42.
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- (4) Cachon-Gonzalez, M.B. et al. (1994) *Proc Natl Acad Sci USA* 91, 7717-21.
- (5) Ahmad, W. et al. (1998) *Science* 279, 720-4.
- (6) Potter, G.B. et al. (2001) *Genes Dev* 15, 2687-701.
- (7) Höög, C. et al. (1991) *Mol Reprod Dev* 30, 173-81.
- (8) Yamane, K. et al. (2006) *Cell* 125, 483-95.
- (9) Okada, Y. et al. (2007) *Nature* 450, 119-23.
- (10) Loh, Y.H. et al. (2007) *Genes Dev* 21, 2545-57.
- (11) Ko, S.Y. et al. (2006) *Cell Struct Funct* 31, 53-62.
- (12) Hu, Z. et al. (2001) *Oncogene* 20, 6946-54.
- (13) Lee, J.W. et al. (1995) *Mol Endocrinol* 9, 243-54.
- (14) Wolf, S.S. et al. (2007) *Arch Biochem Biophys* 460, 56-66.
- (15) Castermans, D. et al. (2007) *Eur J Hum Genet* 15, 422-31.

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

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.