

#2621 Store at -20°C

JMJD1B/JHDM2B Antibody


Cell Signaling
TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP, IF-IC	H M R Mk	Endogenous	220	Rabbit	#Q7LBC6	51780

Product Usage Information

Application

Western Blotting
Immunoprecipitation
Immunofluorescence (Immunocytochemistry)

Dilution

1:1000
1:25
1:100

Storage

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

Specificity / Sensitivity

JMJD1B/JHDM2B Antibody detects endogenous levels of JMJD1B protein (all three isoforms).

Species predicted to react based on 100% sequence homology:

Bovine

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding residues surrounding Pro1254 of human JMJD1B protein. Antibodies are purified by peptide affinity chromatography.

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, 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

- Kubicek, S. et al. (2006) *Ernst Schering Res Found Workshop* , 1-27.
- Lin, W. and Dent, S.Y. (2006) *Curr Opin Genet Dev* 16, 137-42.
- Klose, R.J. et al. (2006) *Nat Rev Genet* 7, 715-27.
- Cachon-Gonzalez, M.B. et al. (1994) *Proc Natl Acad Sci USA* 91, 7717-21.
- Ahmad, W. et al. (1998) *Science* 279, 720-4.
- Potter, G.B. et al. (2001) *Genes Dev* 15, 2687-701.
- Höög, C. et al. (1991) *Mol Reprod Dev* 30, 173-81.
- Yamane, K. et al. (2006) *Cell* 125, 483-95.
- Okada, Y. et al. (2007) *Nature* 450, 119-23.
- Loh, Y.H. et al. (2007) *Genes Dev* 21, 2545-57.
- Ko, S.Y. et al. (2006) *Cell Struct Funct* 31, 53-62.
- Hu, Z. et al. (2001) *Oncogene* 20, 6946-54.
- Lee, J.W. et al. (1995) *Mol Endocrinol* 9, 243-54.

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

WB: Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

Alexa Fluor is a registered trademark of Life Technologies Corporation.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.