

JARID1B Antibody



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: W, IP	Reactivity: H Mk	Sensitivity: Endogenous	MW (kDa): 180	Source/Isotype: Rabbit	UniProt ID: #Q9UGL1	Entrez-Gene Id: 10765
-------------------------------	----------------------------	-----------------------------------	-------------------------	----------------------------------	-------------------------------	---------------------------------

Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

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

JARID1B Antibody detects endogenous levels of JARID1B protein. The antibody does not cross-react with other JARID proteins, including JARID1A, JARID1C and JARID1D.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the human JARID1B protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

The methylation state of lysine residues in histone proteins is a major determinant for formation of active and inactive regions of the genome and is crucial for 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 can 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 7 separate families (3). The JARID (Jumonji/AT-rich interactive domain-containing protein) family contains four members: JARID1A (also RBP2 and RBBP2), JARID1B (also PLU-1), JARID1C (also SMCX), and JARID1D (also SMCY) (4). In addition to the JmjC domain, these proteins contain JmjN, BRIGHT, C5HC2 zinc-finger, and PHD domains, the latter of which binds to methylated histone H3 (Lys9) (4). All four JARID proteins demethylate di- and tri-methyl histone H3 Lys4; JARID1B also demethylates mono-methyl histone H3 Lys4 (5-7). JARID1A is a critical RB-interacting protein and is required for Polycomb-Repressive Complex 2 (PRC2)-mediated transcriptional repression during ES cell differentiation (8). A JARID1A-NUP98 gene fusion is associated with myeloid leukemia (9). JARID1B, which interacts with many proteins including c-Myc and HDAC4, may play a role in cell fate decisions by blocking terminal differentiation (10-12). JARID1B is overexpressed in many breast cancers and may act by repressing multiple tumor suppressor genes, including *BRCA1* and *HOXA5* (13,14). JARID1C has been found in a complex with HDAC1, HDAC2, G9a, and REST, which binds to and represses REST target genes in non-neuronal cells (7). JARID1C mutations are associated with X-linked mental retardation and epilepsy (15,16). JARID1D is uniquely localized to the Y chromosome, and functions as a tumor suppressor by repressing genes associated with cell invasiveness (17). JARID1D is frequently mutated in metastatic prostate tumors, and low JARID1D levels are associated with poor prognosis in prostate cancer patients (17).

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.
3. Klose, R.J. et al. (2006) *Nat Rev Genet* 7, 715-27.
4. Benevolenskaya, E.V. (2007) *Biochem Cell Biol* 85, 435-43.
5. Christensen, J. et al. (2007) *Cell* 128, 1063-76.
6. Yamane, K. et al. (2007) *Mol Cell* 25, 801-12.
7. Tahiliani, M. et al. (2007) *Nature* 447, 601-5.
8. Pasini, D. et al. (2008) *Genes Dev* 22, 1345-55.
9. van Zutven, L.J. et al. (2006) *Genes Chromosomes Cancer* 45, 437-46.
10. Secombe, J. et al. (2007) *Genes Dev* 21, 537-51.
11. Barrett, A. et al. (2007) *Int J Cancer* 121, 265-75.
12. Dey, B.K. et al. (2008) *Mol Cell Biol* 28, 5312-27.
13. Barrett, A. et al. (2002) *Int J Cancer* 101, 581-8.
14. Lu, P.J. et al. (1999) *J Biol Chem* 274, 15633-45.
15. Tzschach, A. et al. (2006) *Hum Mutat* 27, 389.
16. Jensen, L.R. et al. (2005) *Am J Hum Genet* 76, 227-36.
17. Li, N. et al. (2016) *Cancer Res* 76, 831-43.

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
Cross-Reactivity Key	H: Human Mk: Monkey
Trademarks and Patents	Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc. 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.