

#3876 Store at -20°C

JARID1A (D28B10) XP™ Rabbit mAb



100 µl
 (10 western blots)

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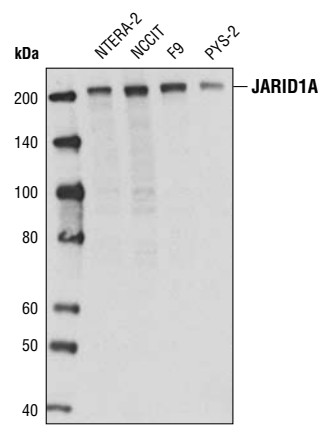
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IF-IC Endogenous	H, M, (R, B)	200 kDa	Rabbit IgG**

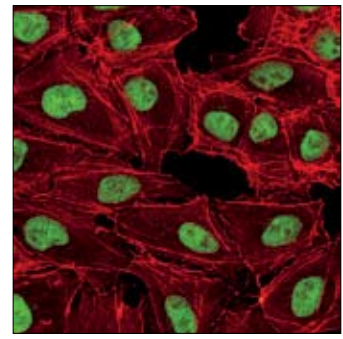
Background: The methylation state of lysine residues in histone proteins is a major determinant for formation of active and inactive regions of the genome and is crucial for proper programming of the genome during development (1,2). Jumonji C (JmjC) domain-containing proteins represent the largest class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

Specificity/Sensitivity: JARID1A (D28B10) XP™ Rabbit mAb detects endogenous levels of total JARID1A protein (both isoforms). The antibody does not cross-react with other JARID proteins, including JARID1B, JARID1C and JARID1D.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide (KLH-coupled) corresponding to the human JARID1A protein. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from various cell lines using JARID1A (D28B10) XP™ Rabbit mAb.



Confocal immunofluorescent analysis of NTERA-2 cells using JARID1A (D28B10) XP™ Rabbit mAb (green). Actin filaments have been labeled with DY-554 phalloidin (red).

Entrez-Gene ID #5927
Swiss-Prot Acc. #P29375

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	1:100
Immunofluorescence (IF-IC)	1:200

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

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

Background References:

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- (2) Lin, W. and Dent, S.Y. (2006) *Curr Opin Genet Dev* 16, 137-42.
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- (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.

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.