KDM5C monoclonal antibody

Catalog: MB66471 Host: Mouse Reactivity: Human

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. Jumonji C (JmjC) domain-containing proteins represent the largest class of potential histone demethylase proteins. 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. Based on homology, both humans and mice contain at least 30 such proteins, which can be divided into 7 separate families. 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). 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). All four JARID proteins demethylate di- and tri-methyl histone H3 Lys4; JARID1B also demethylates mono-methyl histone H3 Lys4. JARID1A is a critical RB-interacting protein and is required for Polycomb-Repressive Complex 2 (PRC2)-mediated transcriptional repression during ES cell differentiation. A JARID1A-NUP98 gene fusion is associated with myeloid leukemia. JARID1B, which interacts with many proteins including c-Myc and HDAC4, may play a role in cell fate decisions by blocking terminal differentiation. JARID1B is overexpressed in many breast cancers and may act by repressing multiple tumor suppressor genes, including BRCA1 and HOXA5 . 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. JARID1C mutations are associated with X-linked mental retardation and epilepsy. JARID1D is uniquely localized to the Y chromosome, and functions as a tumor suppressor by repressing genes associated with cell invasiveness. JARID1D is frequently mutated in metastatic prostate tumors, and low JARID1D levels are associated with poor prognosis in prostate cancer patients.

Product:

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide, pH 7.3.

Molecular Weight:

~ 200 kDa

Swiss-Prot:

P41229

Purification&Purity:

The antibody was purified by immunogen affinity chromatography.

Applications:

WB (1/500 - 1/1000), IF/ICC (1/50 - 1/100)

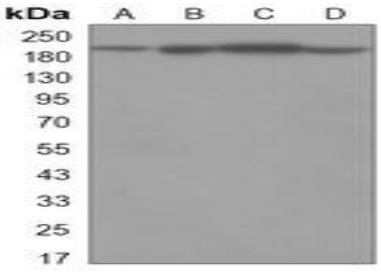
Storage&Stability:

Store at 4℃ short term. Aliquot and store at -20℃ long term. Avoid freeze-thaw cycles.

Specificity:

Recognizes endogenous levels of KDM5C protein.

DATA:



Western blot analysis of KDM5C expression in Hela (A), 293T (B), T47D (C), MCF7 (D) whole cell lysates.

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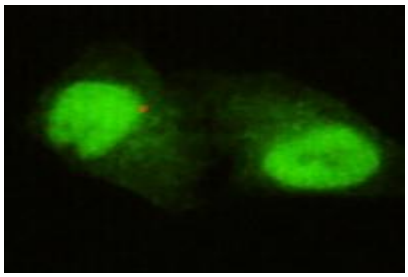

Immunofluorescent analysis of KDM5C staining in HeLa cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 ℃ in a hidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark.

Note:

For research use only, not for use in diagnostic procedure.

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