

# Mouse Monoclonal Antibody to KDM1A

Purified Mouse Monoclonal Antibody

Catalog # AO2368a

## Product Information

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<b>Application</b>	WB, IHC, FC, ICC, E
<b>Primary Accession</b>	<a href="#">O60341</a>
<b>Reactivity</b>	Human, Monkey
<b>Host</b>	Mouse
<b>Clonality</b>	Monoclonal
<b>Clone Names</b>	3F9A3
<b>Isotype</b>	Mouse IgG1
<b>Calculated MW</b>	92903
<b>Description</b>	This gene encodes a nuclear protein containing a SWIRM domain, a FAD-binding motif, and an amine oxidase domain. This protein is a component of several histone deacetylase complexes, though it silences genes by functioning as a histone demethylase. Alternative splicing results in multiple transcript variants.;
<b>Immunogen</b>	Purified recombinant fragment of human KDM1A (AA: 55-263) expressed in E. Coli.
<b>Formulation</b>	Purified antibody in PBS with 0.05% sodium azide
<b>Application Note</b>	ELISA: 1/10000; WB: 1/500 - 1/2000; IHC: 1/200 - 1/1000; ICC: 1/200 - 1/1000; FCM: 1/200 - 1/400

## Additional Information

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<b>Gene ID</b>	23028
<b>Other Names</b>	AOF2; CPRF; KDM1; LSD1; BHC110
<b>Dilution</b>	WB~~1:1000 IHC~~1:100~500 FC~~1:10~50 ICC~~N/A E~~N/A
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Precautions</b>	Mouse Monoclonal Antibody to KDM1A is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	KDM1A ( <a href="#">HGNC:29079</a> )
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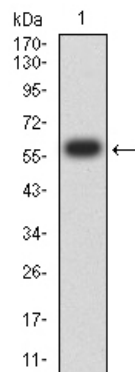
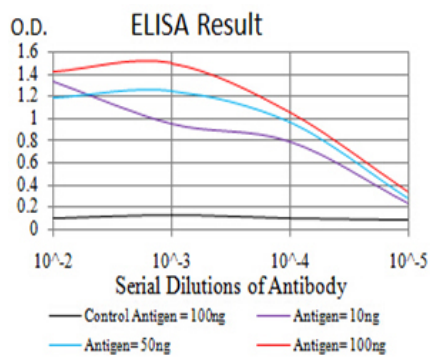
<b>Function</b>	<p>Histone demethylase that can demethylate both 'Lys-4' (H3K4me) and 'Lys-9' (H3K9me) of histone H3, thereby acting as a coactivator or a corepressor, depending on the context (PubMed:<a href="#">15620353</a>, PubMed:<a href="#">15811342</a>, PubMed:<a href="#">16079794</a>, PubMed:<a href="#">16079795</a>, PubMed:<a href="#">16140033</a>, PubMed:<a href="#">16223729</a>, PubMed:<a href="#">27292636</a>). Acts by oxidizing the substrate by FAD to generate the corresponding imine that is subsequently hydrolyzed (PubMed:<a href="#">15620353</a>, PubMed:<a href="#">15811342</a>, PubMed:<a href="#">16079794</a>, PubMed:<a href="#">21300290</a>). Acts as a corepressor by mediating demethylation of H3K4me, a specific tag for epigenetic transcriptional activation. Demethylates both mono- (H3K4me1) and di-methylated (H3K4me2) H3K4me (PubMed:<a href="#">15620353</a>, PubMed:<a href="#">20389281</a>, PubMed:<a href="#">21300290</a>, PubMed:<a href="#">23721412</a>). May play a role in the repression of neuronal genes. Alone, it is unable to demethylate H3K4me on nucleosomes and requires the presence of RCOR1/CoREST to achieve such activity (PubMed:<a href="#">16079794</a>, PubMed:<a href="#">16140033</a>, PubMed:<a href="#">16885027</a>, PubMed:<a href="#">21300290</a>, PubMed:<a href="#">23721412</a>). Also acts as a coactivator of androgen receptor (AR)-dependent transcription, by being recruited to AR target genes and mediating demethylation of H3K9me, a specific tag for epigenetic transcriptional repression. The presence of PRKCB in AR-containing complexes, which mediates phosphorylation of 'Thr-6' of histone H3 (H3T6ph), a specific tag that prevents demethylation H3K4me, prevents H3K4me demethylase activity of KDM1A (PubMed:<a href="#">16079795</a>). Demethylates di-methylated 'Lys- 370' of p53/TP53 which prevents interaction of p53/TP53 with TP53BP1 and represses p53/TP53-mediated transcriptional activation. Demethylates and stabilizes the DNA methylase DNMT1 (PubMed:<a href="#">29691401</a>). Demethylates methylated 'Lys-42' and methylated 'Lys-117' of SOX2 (PubMed:<a href="#">29358331</a>). Required for gastrulation during embryogenesis. Component of a RCOR/GFI/KDM1A/HDAC complex that suppresses, via histone deacetylase (HDAC) recruitment, a number of genes implicated in multilineage blood cell development (PubMed:<a href="#">16079794</a>, PubMed:<a href="#">16140033</a>). Facilitates epithelial-to-mesenchymal transition by acting as an effector of SNAI1-mediated transcription repression of epithelial markers E-cadherin/CDH1, CDN7 and KRT8 (PubMed:<a href="#">20562920</a>, PubMed:<a href="#">27292636</a>). Required for the maintenance of the silenced state of the SNAI1 target genes E-cadherin/CDH1 and CDN7 (PubMed:<a href="#">20389281</a>). Required for the repression of GIPR expression (PubMed:<a href="#">34655521</a>, PubMed:<a href="#">34906447</a>).</p>
<b>Cellular Location</b>	Nucleus. Chromosome. Note=Associates with chromatin
<b>Tissue Location</b>	Ubiquitously expressed.

## References

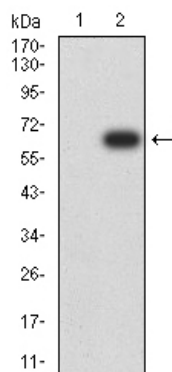
1.Int J Clin Exp Pathol. 2014 Dec 1;7(12):8929-34. ; 2.Blood. 2014 Jul 3;124(1):151-2. ;

## Images

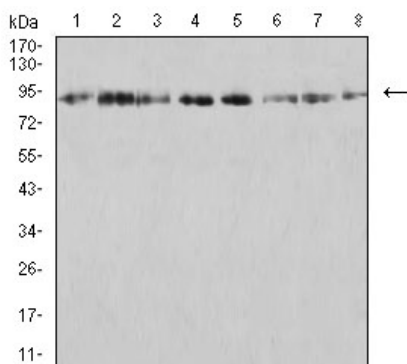
Black line: Control Antigen (100 ng);Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line:Antigen (100 ng)



Western blot analysis using KDM1A mAb against human KDM1A (AA: 55-263) recombinant protein. (Expected MW is 60.3 kDa)

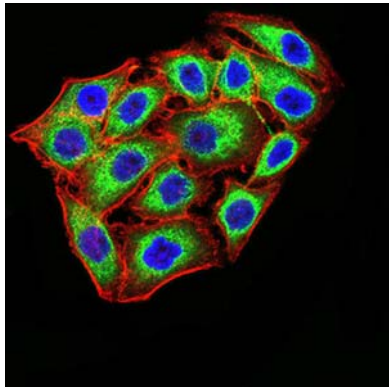
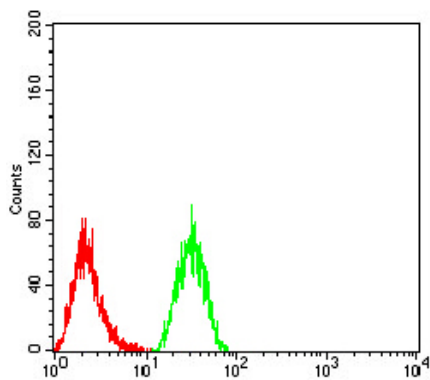


Western blot analysis using KDM1A mAb against HEK293 (1) and KDM1A (AA: 55-263)-hIgGFc transfected HEK293 (2) cell lysate.

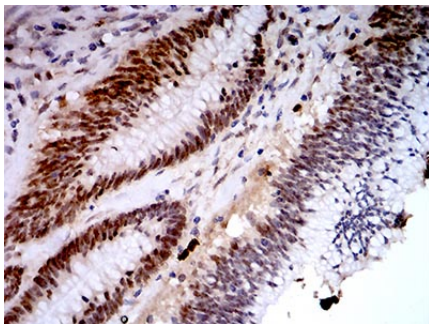


Western blot analysis using KDM1A mouse mAb against SK-Br-3 (1), K562 (2), SW480 (3), Jurkat (4), Hela (5), COS7 (6), T47D (7), and HCT116 (8) cell lysate.

Flow cytometric analysis of Hela cells using KDM1A mouse mAb (green) and negative control (red).



Immunofluorescence analysis of MCF-7 cells using KDM1A mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor- 555 phalloidin. Secondary antibody from Fisher



Immunohistochemical analysis of paraffin-embedded colon cancer tissues using KDM1A mouse mAb with DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.