

LSD1/AOF2 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1045a

Specification

LSD1/AOF2 Antibody - Product Information

Application	WB, IHC
Primary Accession	O60341
Reactivity	Human, Mouse, Monkey
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	93kDa KDa

Description

The amine oxidase domain 2 (AOF2) gene encodes a nuclear protein (LSD1, ~95kDa) 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. LSD1 is a chromatin-modifying enzyme, which serve as a docking module for the stabilization of the associated corepressor complex (es) on chromatin.

Immunogen

Purified recombinant fragment of human LSD1 expressed in E. Coli.

Formulation

Ascitic fluid containing 0.03% sodium azide.

LSD1/AOF2 Antibody - Additional Information

Gene ID 23028

Other Names

Lysine-specific histone demethylase 1A, 1.-.-., BRAF35-HDAC complex protein BHC110, Flavin-containing amine oxidase domain-containing protein 2, KDM1A, AOF2, KDM1, KIAA0601, LSD1

Dilution

WB~~1/500 - 1/2000
IHC~~1/200 - 1/1000

Storage

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.

Precautions

LSD1/AOF2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

LSD1/AOF2 Antibody - Protein Information

Name KDM1A ([HGNC:29079](#))

Function

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:[15620353](http://www.uniprot.org/citations/15620353), PubMed:[15811342](http://www.uniprot.org/citations/15811342), PubMed:[16079794](http://www.uniprot.org/citations/16079794), PubMed:[16079795](http://www.uniprot.org/citations/16079795), PubMed:[16140033](http://www.uniprot.org/citations/16140033), PubMed:[16223729](http://www.uniprot.org/citations/16223729), PubMed:[27292636](http://www.uniprot.org/citations/27292636)). Acts by oxidizing the substrate by FAD to generate the corresponding imine that is subsequently hydrolyzed (PubMed:[15620353](http://www.uniprot.org/citations/15620353), PubMed:[15811342](http://www.uniprot.org/citations/15811342), PubMed:[16079794](http://www.uniprot.org/citations/16079794), PubMed:[21300290](http://www.uniprot.org/citations/21300290), PubMed:[21300290](http://www.uniprot.org/citations/21300290)). 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:[15620353](http://www.uniprot.org/citations/15620353), PubMed:[20389281](http://www.uniprot.org/citations/20389281), PubMed:[21300290](http://www.uniprot.org/citations/21300290), PubMed:[23721412](http://www.uniprot.org/citations/23721412), PubMed:[23721412](http://www.uniprot.org/citations/23721412)). 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:[16079794](http://www.uniprot.org/citations/16079794), PubMed:[16140033](http://www.uniprot.org/citations/16140033), PubMed:[16885027](http://www.uniprot.org/citations/16885027), PubMed:[21300290](http://www.uniprot.org/citations/21300290), PubMed:[23721412](http://www.uniprot.org/citations/23721412), PubMed:[23721412](http://www.uniprot.org/citations/23721412)). 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:[16079795](http://www.uniprot.org/citations/16079795)). 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:[29691401](http://www.uniprot.org/citations/29691401)). Demethylates methylated 'Lys-42' and methylated 'Lys-117' of SOX2 (PubMed:[29358331](http://www.uniprot.org/citations/29358331)). 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:[16079794](http://www.uniprot.org/citations/16079794), PubMed:[16140033](http://www.uniprot.org/citations/16140033)). 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:[20562920](http://www.uniprot.org/citations/20562920), PubMed:[27292636](http://www.uniprot.org/citations/27292636)). Required for the maintenance of the silenced state of the SNAI1 target genes E-cadherin/CDH1 and CDN7 (PubMed:[20389281](http://www.uniprot.org/citations/20389281)).

Cellular Location

Nucleus. Chromosome. Note=Associates with chromatin

Tissue Location

Ubiquitously expressed.

LSD1/AOF2 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)

LSD1/AOF2 Antibody - Images

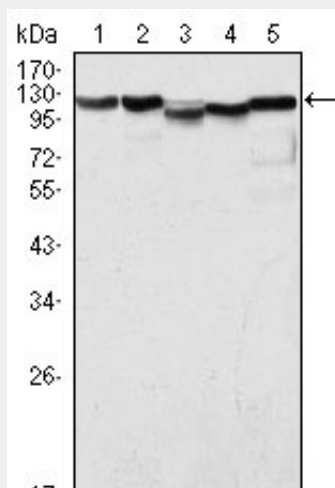


Figure 1: Western blot analysis using LSD1 mouse mAb against COS (1), HeLa (2), NIH/3T3 (3), A549 (4) and Jurkat (5) cell lysate.

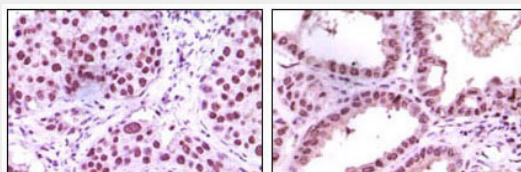


Figure 2: Immunohistochemical analysis of paraffin-embedded human lung carcinoma (left) and kidney carcinoma (right), showing nuclear localization using LSD1 mouse mAb with DAB staining.

LSD1/AOF2 Antibody - References

1. Shi YJ, et.al Mol Cell. 2005 Sep 16;19(6):857-64. 2. Metzger E, et.al Nature. 2005 Sep 15;437(7057):436-9.