

KDM1A / LSD1 Antibody (aa100-150) Rabbit Polyclonal Antibody Catalog # ALS12061

Specification

KDM1A / LSD1 Antibody (aa100-150) - Product Information

Application Primary Accession Reactivity

Host Clonality Calculated MW WB, IHC <u>O60341</u> Human, Mouse, Rat, Zebrafish, Monkey, Dog Rabbit Polyclonal 93kDa KDa

KDM1A / LSD1 Antibody (aa100-150) - 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

Target/Specificity A portion of amino acids 100-150 of human LSD1 was used as the immunogen.

Reconstitution & Storage

Store at 4°C for short term applications. For long term storage, aliquot and store at -20°C.

Precautions KDM1A / LSD1 Antibody (aa100-150) is for research use only and not for use in diagnostic or therapeutic procedures.

KDM1A / LSD1 Antibody (aa100-150) - Protein Information

Name KDM1A (<u>HGNC:29079</u>)

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, PubMed:15811342, PubMed:16079794, PubMed:16079794, PubMed:16140033, PubMed:16140033, PubMed:16140033, PubMed:16223729, PubMed:16223729, PubMed:16223729, PubMed:16223729, PubMed:27292636, PubMed:27292636). Acts by oxidizing the substrate by FAD to generate the corresponding imine that is subsequently



hydrolyzed (PubMed:15620353, PubMed:15811342, PubMed:16079794, PubMed: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, PubMed:20389281, PubMed:21300290, PubMed: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, PubMed:16140033, PubMed:16885027, PubMed:21300290, PubMed: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). 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). Demethylates methylated 'Lys-42' and methylated 'Lys-117' of SOX2 (PubMed: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, PubMed: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, PubMed:27292636). Required for the maintenance of the silenced state of the SNAI1 target genes E-cadherin/CDH1 and CDN7 (PubMed:20389281).

Cellular Location Nucleus. Chromosome. Note=Associates with chromatin

Tissue Location Ubiquitously expressed.

Volume 50 μl

KDM1A / LSD1 Antibody (aa100-150) - Protocols

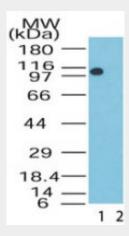
Provided below are standard protocols that you may find useful for product applications.

- <u>Western Blot</u>
- <u>Blocking Peptides</u>

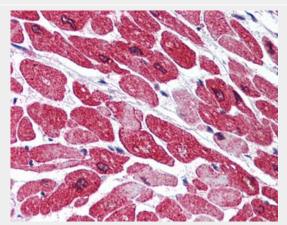


- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- <u>Cell Culture</u>

KDM1A / LSD1 Antibody (aa100-150) - Images



Western blot of LSD1 in the 1) absence and 2) presence of immunizing peptide in human brain...



Anti-KDM1A / LSD1 antibody IHC of human heart.

KDM1A / LSD1 Antibody (aa100-150) - Background

Histone demethylase that demethylates both 'Lys-4' (H3K4me) and 'Lys-9' (H3K9me) of histone H3, thereby acting as a coactivator or a corepressor, depending on the context. Acts by oxidizing the substrate by FAD to generate the corresponding imine that is subsequently hydrolyzed. 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. 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. Also acts as a coactivator of androgen receptor (ANDR)-dependent transcription, by being recruited to ANDR target genes and mediating demethylation of H3K9me, a specific tag for epigenetic transcriptional repression. The presence of PRKCB in ANDR-containing complexes, which mediates phosphorylation of 'Thr- 6' of histone H3 (H3T6ph), a specific tag that prevents demethylated '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. 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. Effector of SNAI1-mediated transcription repression of E- cadherin/CDH1, CDN7 and KRT8. Required for the maintenance of the silenced state of the SNAI1 target genes E-cadherin/CDH1 and CDN7.

KDM1A / LSD1 Antibody (aa100-150) - References

Nagase T.,et al.DNA Res. 5:31-39(1998). Gregory S.G.,et al.Nature 441:315-321(2006). Bechtel S.,et al.BMC Genomics 8:399-399(2007). Hakimi M.-A.,et al.Proc. Natl. Acad. Sci. U.S.A. 99:7420-7425(2002). Humphrey G.W.,et al.J. Biol. Chem. 276:6817-6824(2001).