Anti-KDM1 / LSD1 Antibody [JE04-60]

HA722723

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IHC-P, IP
Molecular Wt:	Predicted band size: 93 kDa
Clone number:	JE04-60

Description: Lysine-specific histone demethylase 1A (LSD1) also known as lysine (K)-specific demethylase 1A (KDM1A) is a protein that in humans is encoded by the KDM1A gene. LSD1 is a flavin-dependent monoamine oxidase, which can demethylate mono- and di-methylated lysines, specifically histone 3, lysine 4 (H3K4). Other reported methylated lysine substrates such as histone H3K9 and TP53 have not been biochemically validated. This enzyme plays a critical role in oocyte growth, embryogenesis, hematopoiesis and tissue-specific differentiation. LSD1 was the first histone demethylase to be discovered though more than 30 have since been described.

Immunogen: Synthetic peptide within human KDM1 / LSD1 aa 51-100 / 852.

Positive control: Jurkat cell lysate, HCT 116 cell lysate, C2C12 cell lysate, COS-1 cell lysate, Mouse spleen tissue lysate, Rat spleen tissue lysate, Jurkat, human colon tissue, human kidney tissue, mouse kidney tissue, rat kidney tissue.

Subcellular location: Nucleus, Chromosome.

Database links: SwissProt: O60341 Human | Q6ZQ88 Mouse
Entrez Gene: 500569 Rat

Recommended Dilutions:

WB	1:1,000
IF-Cell	1:100
IHC-P	1:50-1:200
IP	1-2μg/sample

Storage Buffer: 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

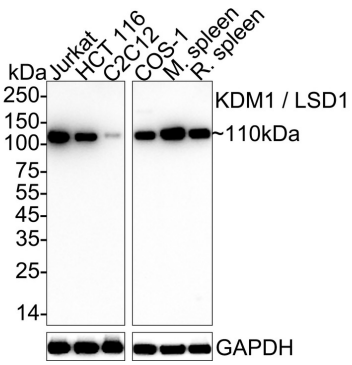

Fig1: Western blot analysis of KDM1 / LSD1 on different lysates with Rabbit anti-KDM1 / LSD1 antibody (HA722723) at 1/1,000 dilution.

Lane 1: Jurkat cell lysate (20 µg/Lane)
Lane 2: HCT 116 cell lysate (20 µg/Lane)
Lane 3: C2C12 cell lysate (20 µg/Lane)
Lane 4: COS-1 cell lysate (20 µg/Lane)
Lane 5: Mouse spleen tissue lysate (40 µg/Lane)
Lane 6: Rat spleen tissue lysate (40 µg/Lane)

Predicted band size: 93 kDa
Observed band size: 110 kDa

Exposure time: 3 minutes; ECL: K1801;
4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA722723) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

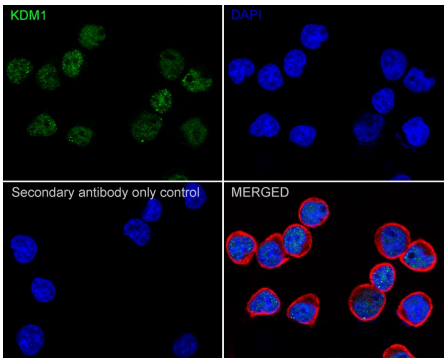

Fig2: Immunocytochemistry analysis of Jurkat cells labeling KDM1 / LSD1 with Rabbit anti-KDM1 / LSD1 antibody (HA722723) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-KDM1 / LSD1 antibody (HA722723) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

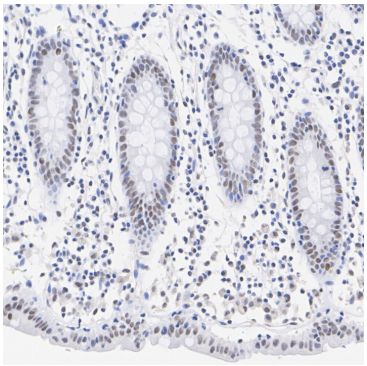

Fig3: Immunohistochemical analysis of paraffin-embedded human colon tissue with Rabbit anti-KDM1 / LSD1 antibody (HA722723) at 1/50 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA722723) at 1/50 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

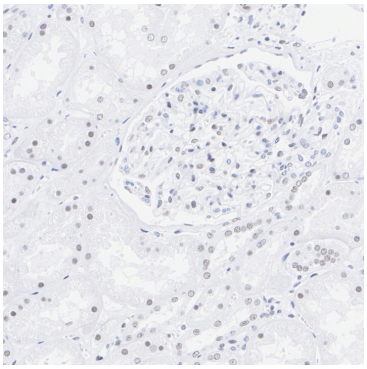

Fig4: Immunohistochemical analysis of paraffin-embedded human kidney tissue with Rabbit anti-KDM1 / LSD1 antibody (HA722723) at 1/50 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA722723) at 1/50 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

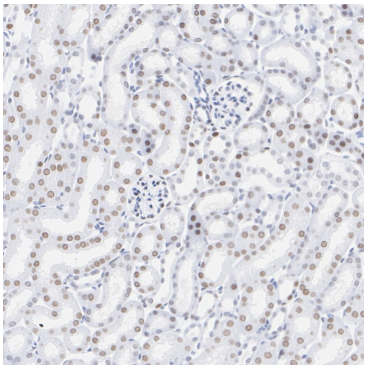

Fig5: Immunohistochemical analysis of paraffin-embedded mouse kidney tissue with Rabbit anti-KDM1 / LSD1 antibody (HA722723) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA722723) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

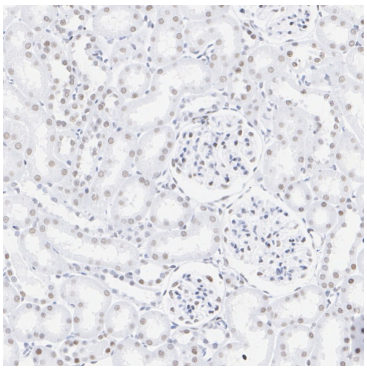

Fig6: Immunohistochemical analysis of paraffin-embedded rat kidney tissue with Rabbit anti-KDM1 / LSD1 antibody (HA722723) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA722723) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

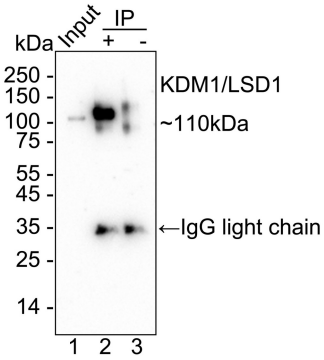

Fig7: KDM1 / LSD1 was immunoprecipitated from 0.2 mg Jurkat cell lysate with HA722723 at 2 µg/10 µl beads. Western blot was performed from the immunoprecipitate using HA722723 at 1/1,000 dilution. Anti-Rabbit IgG for IP Nano-secondary antibody (NBI01H) at 1/5,000 dilution was used for 1 hour at room temperature.

Lane 1: Jurkat cell lysate (input)
Lane 2: HA722723 IP in Jurkat cell lysate
Lane 3: Rabbit IgG instead of HA722723 in Jurkat cell lysate

Blocking/Dilution buffer: 5% NFDM/TBST
Exposure time: 44 seconds; ECL: K1801

Background References

1. Mao F et al. Targeting the LSD1/KDM1 Family of Lysine Demethylases in Cancer and Other Human Diseases. Adv Exp Med Biol. 2023
2. Ko YC et al. A Comprehensive Evaluation of Prognostic Value and Immune Infiltration of KDM1 Family in Hepatocellular Carcinoma. Adv Ther. 2022 Oct