abcam

Product datasheet

Anti-KDM1/LSD1 antibody - Nuclear Marker ab17721

KO VALIDATED

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Overview

Product name	Anti-KDM1/LSD1 antibody - Nuclear Marker
Description	Rabbit polyclonal to KDM1/LSD1 - Nuclear Marker
Host species	Rabbit
Specificity	Replenishment batches of our polyclonal antibody, ab17721 are tested in WB. Previous batches were additionally validated in ICC/IF. This application is still expected to work and is covered by our Abpromise guarantee. You may also be interested in our alternative recombinant antibody, **ab129195**.
Tested applications	**Suitable for:** ICC/IF, WB
Species reactivity	**Reacts with:** Mouse, Rat, Human **Predicted to work with:** Pig
Immunogen	Synthetic peptide conjugated to KLH derived from within residues 800 to the C-terminus of Human LSD1. Read Abcam's proprietary immunogen policy (Peptide available as **ab17763**.)
Positive control	ICC/IF: HeLa, 293T, c2c12 cells. WB: Jurkat, HCT 116, NIH/3T3, C2C12, Mouse skeletal muscle, C6, HeLa.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide

Constituent: PBS

Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.

Purity Immunogen affinity purified

Clonality Polyclonal

Isotype IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab17721 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF	★★★★★ **(4)**	Use a concentration of 1 µg/ml.
WB	★★★★☆ **(12)**	Use a concentration of 1 µg/ml. Detects a band of approximately 105 kDa (predicted molecular weight: 93 kDa).

Target

Function 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 demethylation H3K4me, prevents H3K4me demethylase activity of KDM1A. 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. Required for gastrulation during embryogenesis.

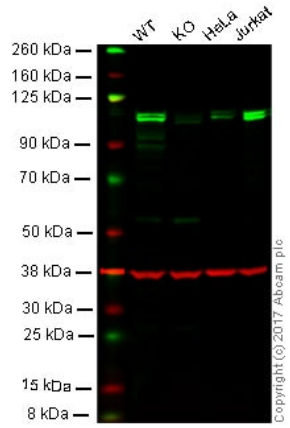
Tissue specificity Ubiquitously expressed.

Sequence similarities Belongs to the flavin monoamine oxidase family.
Contains 1 SWIRM domain.

Domain The SWIRM domain may act as an anchor site for a histone tail.

Cellular localization Nucleus.

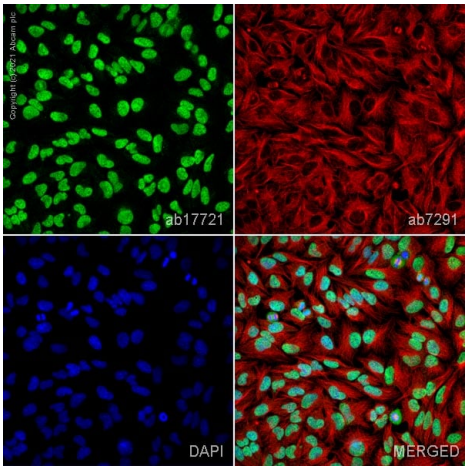
Images



Western blot - Anti-KDM1/LSD1 antibody - Nuclear Marker (ab17721)

Lane 1: Wild type HAP1 whole cell lysate (20 µg)
Lane 2: KDM1 / LSD1 knockout HAP1 whole cell lysate (20 µg)
Lane 3: HeLa whole cell lysate (20 µg)
Lane 4: Jurkat whole cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab17721 observed at 110 kDa. Red - loading control, **ab8245**, observed at 37 kDa.

ab17721 was shown to specifically react with KDMI/LSD1 in wild-type HAP1 cells. No band was observed when KDMI/LSD1 knockout samples were examined.

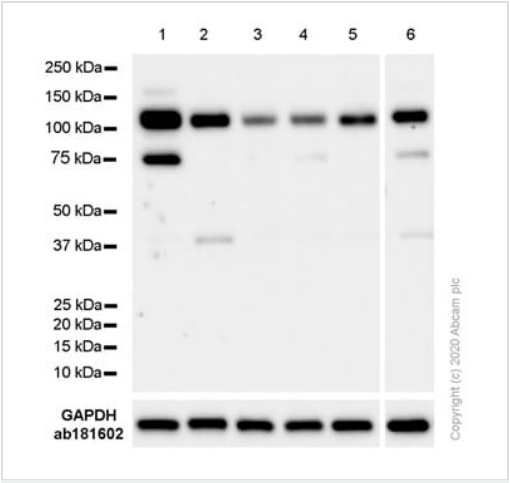


Immunocytochemistry/ Immunofluorescence - Anti-KDM1/LSD1 antibody - Nuclear Marker (ab17721)

ab17721 staining KDM1 / LSD1 in HeLa cells. The cells were fixed with 100% methanol (5 min), permeabilized with 0.1% PBS-Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at 4°C with ab17721 at 1µg/ml and **ab7291**, Mouse monoclonal [DM1A] to alpha Tubulin - Loading Control. Cells were then incubated with **ab150081**, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 488), pre-adsorbed at 1/1000 dilution (shown in green) and **ab150120**, Goat polyclonal Secondary Antibody to Mouse IgG - H&L (Alexa Fluor® 594), pre-adsorbed at 1/1000 dilution (shown in pseudocolour red). Nuclear DNA was labelled with DAPI (shown in blue).

Also suitable in cells fixed with 4% paraformaldehyde (10 min).

Image was acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.



Western blot - Anti-KDM1/LSD1 antibody - Nuclear Marker (ab17721)

All lanes :

Lane 1 : Jurkat (Human T cell leukemia T lymphocyte) whole cell lysates at 20 µg
Lane 2 : HCT 116 (Human colorectal carcinoma epithelial cell) whole cell lysates at 20 µg
Lane 3 : NIH/3T3 (Mouse embryonic fibroblast) whole cell lysates at 20 µg
Lane 4 : C2C12 (Mouse myoblasts myoblast) whole cell lysates
Lane 5 : Mouse skeletal muscle lysates at 20 µg
Lane 6 : C6 (Rat glial tumor glial cell) whole cell lysates at 20 µg

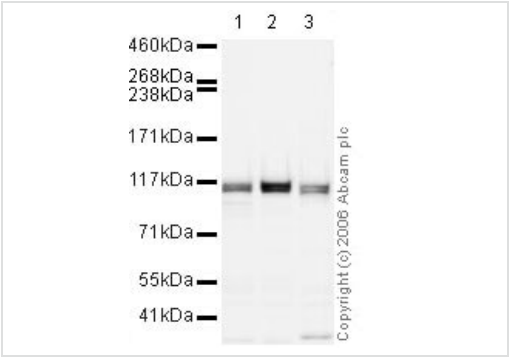
Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (**ab97051**) at 1/20000 dilution

Predicted band size: 93 kDa

Exposure time: 50 seconds

Observed MW: 110kd

Blocking Buffer & Diluting buffer concentration: 5% NFDM/TBST



Western blot - Anti-KDM1/LSD1 antibody - Nuclear Marker and ChIP Grade (ab17721)

All lanes : Anti-KDM1/LSD1 antibody - Nuclear Marker (ab17721) at 1 µg/ml

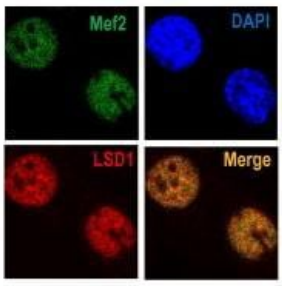
Lane 1 : HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate
Lane 2 : Jurkat whole cell lysate (**ab7899**)
Lane 3 : NIH/3T3 whole cell lysate (**ab7179**)

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat polyclonal to Rabbit IgG H&L (HRP) Pre-Adsorbed at 1/10000 dilution

Performed under reducing conditions.

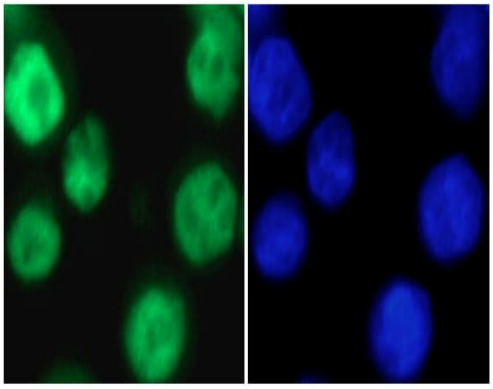
Predicted band size: 93 kDa



Immunocytochemistry/ Immunofluorescence - Anti-KDM1/LSD1 antibody - Nuclear Marker and ChIP Grade (ab17721)

Image courtesy of anonymous abreviewer

ab17721 staining LSD1 in the mouse c2c12 cell line by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with paraformaldehyde, permeabilized with 0.5% Triton X-100 and blocked with 2% BSA for 1 hour at 25°C. Samples were incubated with primary antibody (1/200) for 1 hour at 25°C. A diluted (1/2000) Alexa Fluor® 568-conjugated Goat anti-rabbit IgG polyclonal was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-KDM1/LSD1 antibody - Nuclear Marker and ChIP Grade (ab17721)

This image is courtesy of Katia Ancelin

Human 293T cells fixed in 4% paraformaldehyde were immunostained with ab17721 (1/200) for LSD1 and detected using FITC labelled anti-rabbit (Green). Nuclear DNA is stained blue with DAPI.

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