abcam

ab318978

Anti-LDB1 antibody [EPR28912-75]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR28912-75
Purification technique	Affinity purification Protein A
Specificity	Not suitable for human IHC-P.
Concentration	0.495 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Dot

Tested

Species	Synthetic peptide - Human
Dilution info	1/1000
Notes	-

Expected

Species	Mouse, Rat, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Human, Synthetic peptide - Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Species	Mouse
Dilution info	1/50

Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Synthetic peptide - Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Not recommended

Species	Synthetic peptide - Human
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Species	Mouse
Dilution info	1/30
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Synthetic peptide - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50
Notes	-

Species	Mouse
Dilution info	1/50
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Synthetic peptide - Human
Dilution info	-
Notes	-

Target data

See full target information LDB1

Function	Binds to the LIM domain of a wide variety of LIM domain-containing transcription factors. May regulate the transcriptional activity of LIM-containing proteins by determining specific partner interactions. Plays a role in the development of interneurons and motor neurons in cooperation with LHX3 and ISL1. Acts synergistically with LHX1/LIM1 in axis formation and activation of gene expression. Acts with LMO2 in the regulation of red blood cell development, maintaining erythroid precursors in an immature state.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	LDB1 also known as LIM Domain Binding 1 serves an important role in transcriptional regulation. This protein with a mass of approximately 42 kDa frequently expresses in tissues such as the brain heart and spleen. LDB1 participates in forming multiprotein complexes through its interaction with LIM homeodomain proteins engaging with various co-regulators to influence gene expression.
Biological function summary	LIM Domain Binding 1 plays an important role in developmental processes and cell differentiation. It combines with other proteins to form a LIM complex that acts as a DNA-binding transcriptional regulator. The complex binds to enhancer elements and facilitates the activation or repression of genes critical for the development of the nervous system and cardiovascular system.
Pathways	LIM Domain Binding 1 integrates into the Wnt signaling pathway and the TGF-beta pathway. It interacts with proteins such as TCF/LEF and Smad serving as a cofactor that modulates transcriptional responses and influences cellular outcomes. By participating in these pathways LDB1 helps regulate cell fate decisions ensuring appropriate cellular differentiation and proliferation responses.
Associated diseases and disorders	LIM Domain Binding 1 holds relevance to leukemia and Wilms' tumor. Its dysregulation connects with disproportionate expression of key developmental genes contributing to pathogenesis. LDB1's interaction with transcription factors like SCL/TAL1 highlights its contribution to the onset of these diseases by modulating gene expression patterns associated with these cancers.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

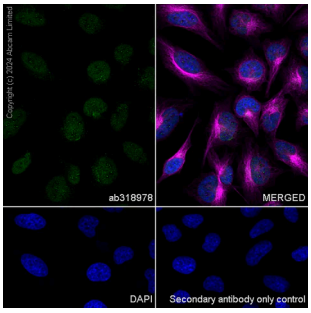
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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13 product images



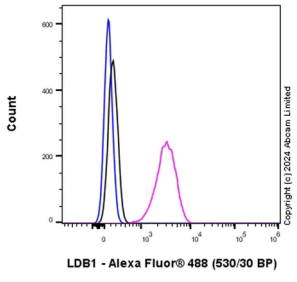
Immunocytochemistry/ Immunofluorescence - Anti-LDB1 antibody [EPR28912-75] (ab318978)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling LDB1 with ab318978 at 1/50 (9.9 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing mainly nuclear staining in Hela cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labeled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

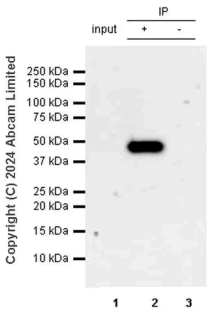
Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Flow Cytometry (Intracellular) - Anti-LDB1 antibody [EPR28912-75] (ab318978)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling LDB1 with ab318978 at 1/50 dilution (1 ug)/magenta compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-LDB1 antibody [EPR28912-75] (ab318978)

LDB1 was immunoprecipitated from 0.35 mg HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate with ab318978 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab318978 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate
Lane 2: ab318978 IP in HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab318978 in HeLa whole cell lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST

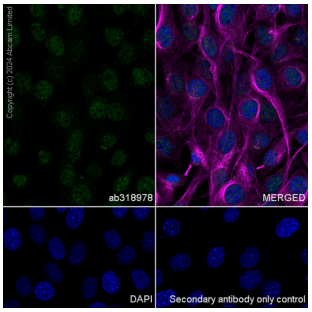
All lanes:
Immunoprecipitation - Anti-LDB1 antibody [EPR28912-75] (ab318978) at 1/30 dilution

All lanes:
HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 67s



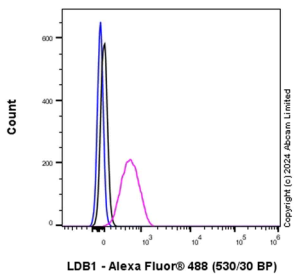
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Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized NIH/3T3 (mouse embryonic fibroblast) cells labelling LDB1 with ab318978 at 1/50 (9.9 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing mainly nuclear staining in NIH/3T3 cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labeled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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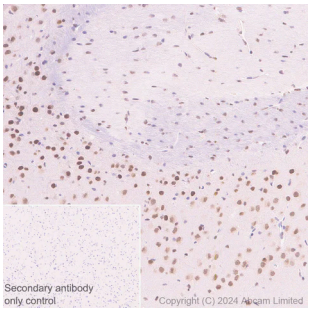
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Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LDB1 antibody [EPR28912-75] (ab318978)

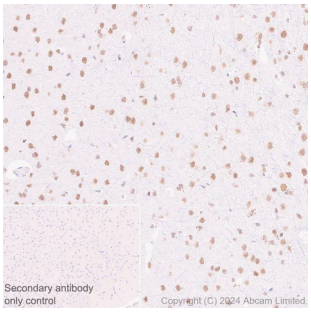
Immunohistochemical analysis of paraffin-embedded Mouse cerebrum tissue labeling LDB1 with ab318978 at 1/2000 (0.248 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on mouse cerebrum (PMID: 30873428).
The section was incubated with ab318978 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument
Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LDB1 antibody [EPR28912-75] (ab318978)

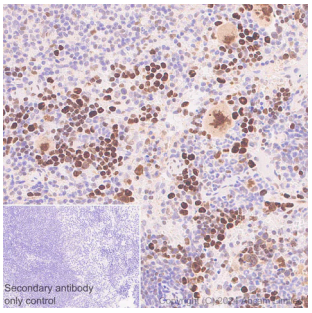
Immunohistochemical analysis of paraffin-embedded Rat cerebrum tissue labeling LDB1 with ab318978 at 1/2000 (0.248 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on rat cerebrum.
The section was incubated with ab318978 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument
Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background

Counterstained with Hematoxylin.

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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LDB1 antibody [EPR28912-75] (ab318978)

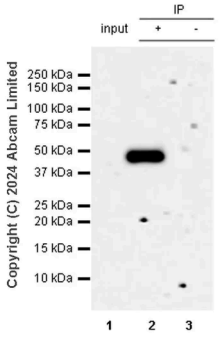
Immunohistochemical analysis of paraffin-embedded Mouse spleen tissue labeling LDB1 with ab318978 at 1/2000 (0.248 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on mouse spleen.
The section was incubated with ab318978 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument
Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunoprecipitation - Anti-LDB1 antibody [EPR28912-75] (ab318978)

LDB1 was immunoprecipitated from 0.35 mg NIH/3T3 (mouse embryonic fibroblast) whole cell lysate with ab318978 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab318978 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP) (ab131366) was used at 1/5000 dilution.

Lane 1: NIH/3T3 (mouse embryonic fibroblast) whole cell lysate
Lane 2: ab318978 IP in NIH/3T3 (mouse embryonic fibroblast) whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab318978 in NIH/3T3 whole cell lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST

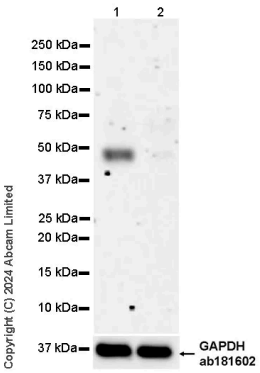
All lanes:
Immunoprecipitation - Anti-LDB1 antibody [EPR28912-75] (ab318978) at 1/30 dilution

All lanes:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 67s



Western blot - Anti-LDB1 antibody [EPR28912-75] (ab318978)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-LDB1 antibody [EPR28912-75] (ab318978) at 1/1000 dilution

Lane 1:
HeLa (human cervical adenocarcinoma epithelial cell) transfected with scrambled siRNA control whole cell lysate at 10 µg

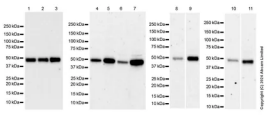
Lane 2:
HeLa transfected with siRNA specifically targeting LDB1 whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 46 kDa, 36 kDa

Exposure time: 180s



Western blot - Anti-LDB1 antibody [EPR28912-75] (ab318978)

LDB1 Western blot staining using rabbit Anti-LDB1 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

The lysates were freshly made and used for Western Blotting immediately to minimize protein degradation.

Exposure time: Lanes 1-3: 59 seconds; Lanes 4-11: 180 seconds

All lanes:
Western blot - Anti-LDB1 antibody [EPR28912-75] (ab318978) at 1/1000 dilution

Lane 1:
293T (human embryonic kidney epithelial cell) whole cell lysate at 20 µg

Lane 2:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 20 µg

Lane 3:
PC-12 (rat adrenal gland pheochromocytoma cell) whole cell lysate at 20 µg

Lane 4:
C6 (rat glial tumor glial cell) whole cell lysate at 20 µg

Lane 5:
Neuro-2a (mouse neuroblastoma neuroblast) whole cell lysate at 20 µg

Lane 6:
U-87 MG (human glioblastoma-astrocytoma epithelial cell) whole cell lysate at 20 µg

Lane 7:
SH-SY5Y (human neuroblastoma epithelial cell) whole cell lysate at 20 µg

Lane 8:
Mouse brain tissue lysate at 20 µg

Lane 9:
Mouse spleen tissue lysate at 20 µg

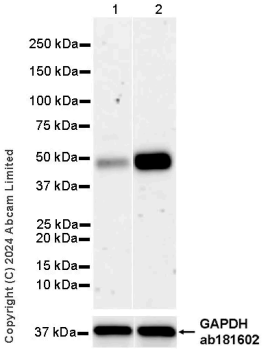
Lane 10:
Rat brain tissue lysate at 20 µg

Lane 11:
Rat spleen tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 46 kDa



Western blot - Anti-LDB1 antibody [EPR28912-75] (ab318978)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-LDB1 antibody [EPR28912-75] (ab318978) at 1/1000 dilution

Lane 1:
MCF7 (human breast adenocarcinoma epithelial cell) whole cell lysate at 20 µg

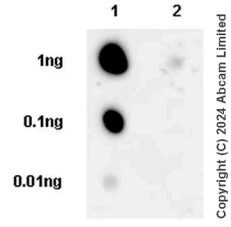
Lane 2:
K-562 (human chronic myelogenous leukemia lymphoblast) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 46 kDa, 36 kDa

Exposure time: 180s



Dot Blot - Anti-LDB1 antibody [EPR28912-75] (ab318978)

LDB1 Dot Blot staining using rabbit Anti-LDB1 antibody

Dot blot analysis of LDB1 using ab318978 at 1:1000 (0.495 ug/ml) followed by a Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1:100,000 dilution.

Lane1: Human LDB1 peptide
Lane2: His-tagged human LDB2 recombinant protein

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

This antibody has weak cross reaction with human LDB2 by Dot.

All lanes:

Dot Blot - Anti-LDB1 antibody [EPR28912-75] (ab318978) at 1/1000 dilution

Lane 1:
Human LDB1 peptide

Lane 2:
His-tagged human LDB2 recombinant protein

Secondary

All lanes:
Dot Blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Exposure time: 180s

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