abcam

ab322110

Anti-KLF4 antibody [RM1174]

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	Multiclonal
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Clone number	RM1174
Purification technique	Affinity purification Protein A
Specificity	Unsuitable for rat FC-intra
Concentration	0.509 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Species	Mouse
Dilution info	1/500
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Species	Mouse
Dilution info	1/50
Notes	-

Species	Rat
Dilution info	1/50
Notes	-

IHC-P

Tested

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

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.

IP

Not recommended

Species	Human, Mouse, Rat
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	-

Target data

See full target information KLF4

Function	Transcription factor; can act both as activator and as repressor. Binds the 5'-CACCC-3' core sequence. Binds to the promoter region of its own gene and can activate its own transcription. Regulates the expression of key transcription factors

during embryonic development. Plays an important role in maintaining embryonic stem cells, and in preventing their differentiation. Required for establishing the barrier function of the skin and for postnatal maturation and maintenance of the ocular surface. Involved in the differentiation of epithelial cells and may also function in skeletal and kidney development. Contributes to the down-regulation of p53/TP53 transcription.

Storage

Shipped at conditions	Blue Ice
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

What are recombinant multiclonals?
Recombinant multiclonals are a mixture of recombinant antibodies co-expressed from a library of heavy and light chains. They offer several advantages including:

- The sensitivity of polyclonal antibodies by recognising multiple epitopes
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

View our range of recombinant multiclonal antibodies.

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.

Supplementary info

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

Activity summary	KLF4 also known as Kruppel-like factor 4 acts as a transcription factor involved in the regulation of gene expression. It has a molecular weight of approximately 55-

	60 kDa. Researchers often find KLF4 expressed in epithelial tissues such as the skin and gastrointestinal tract. It regulates cellular processes like differentiation proliferation and apoptosis playing a role in maintaining homeostasis and cell identity.
Biological function summary	KLF4 impacts cell differentiation and proliferation through its role as a transcription factor. It functions within several cellular complexes and interacts with other transcription factors to modulate gene expression. KLF4 regulates stem cell maintenance by influencing gene networks involved in self-renewal and differentiation contributing particularly to pluripotency in embryonic stem cells.
Pathways	The transcriptional activity of KLF4 integrates into key signaling pathways like the Wnt/β-catenin and Notch pathways. Within the Wnt/β-catenin pathway KLF4 may cooperate with β-catenin and TCF/LEF transcription factors to modulate gene targets. Similarly in the Notch signaling pathway KLF4 interacts with pathway components to influence cell fate decisions. These interactions highlight KLF4's central role in orchestrating complex signaling networks.
Associated diseases and disorders	Mutations or dysregulated expression of KLF4 associates with various conditions including colorectal cancer and skin disorders like atopic dermatitis. In colorectal cancer KLF4 often interacts with other oncogenes and tumor suppressor proteins such as p53 to influence tumorigenesis. In skin disorders altered KLF4 expression can impact skin barrier function and inflammatory responses connecting it with proteins involved in immune response regulation.

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

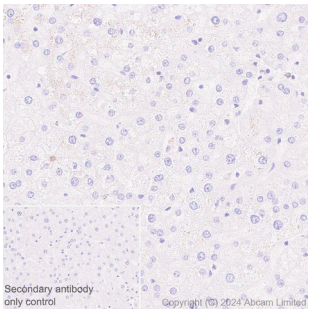
We do not recommend this combination. It is not covered by our product promise.

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:

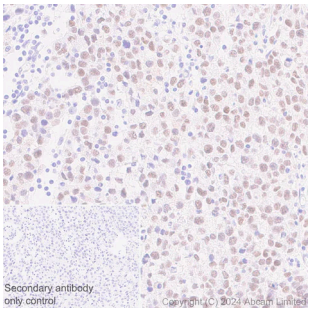
18 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KLF4 antibody [RM1174] (ab322110)

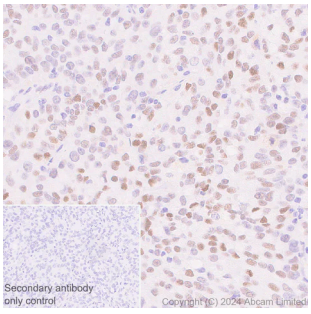
KLF4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human liver tissue using rabbit Anti-KLF4 antibody

Immunohistochemical analysis of paraffin-embedded Human liver tissue labeling KLF4 with ab322110 at 1/2000 (0.255 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Low expression tissue: no staining on human liver. The section was incubated with ab322110 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. 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.



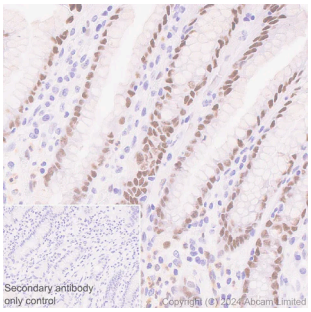
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KLF4 antibody [RM1174] (ab322110)

Immunohistochemical analysis of paraffin-embedded Human seminoma of testis tissue labeling KLF4 with ab322110 at 1/2000 (0.255 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on human seminoma of testis. The section was incubated with ab322110 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. 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.



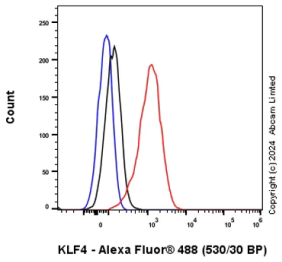
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KLF4 antibody [RM1174] (ab322110)

Immunohistochemical analysis of paraffin-embedded Human stomach carcinoma tissue labeling KLF4 with ab322110 at 1/2000 (0.255 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on human stomach carcinoma. The section was incubated with ab322110 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. 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.



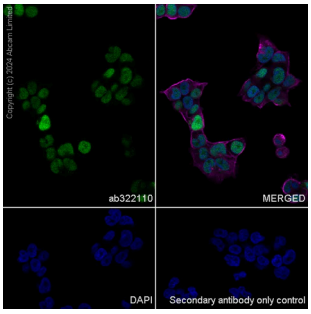
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KLF4 antibody [RM1174] (ab322110)

Immunohistochemical analysis of paraffin-embedded Human stomach tissue labeling KLF4 with ab322110 at 1/2000 (0.255 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on human stomach. The section was incubated with ab322110 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. 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.



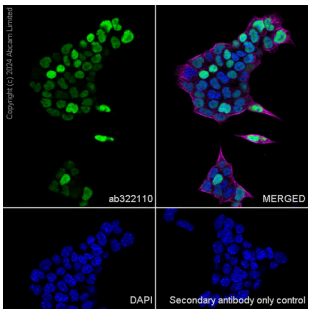
Flow Cytometry (Intracellular) - Anti-KLF4 antibody [RM1174] (ab322110)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized NCCIT (human pluripotent embryonic carcinoma epithelial cell) (Red) cells labelling KLF4 with ab322110 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabeled 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.



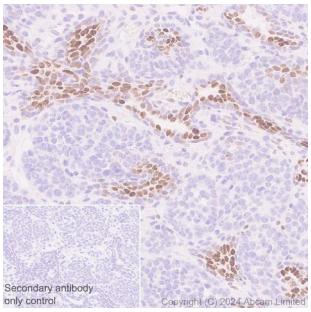
Immunocytochemistry/ Immunofluorescence - Anti-KLF4 antibody [RM1174] (ab322110)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized NCCIT (human pluripotent embryonic carcinoma epithelial cell) cells labelling KLF4 with ab322110 at 1/50 dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green). Confocal image showing nuclear staining in NCCIT 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 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 dilution.



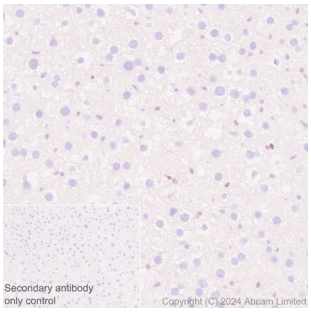
Immunocytochemistry/ Immunofluorescence - Anti-KLF4 antibody [RM1174] (ab322110)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized F9 (mouse embryonal carcinoma epithelial cell) cells labelling KLF4 with ab322110 at 1/50 dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green). Confocal image showing nuclear staining in F9 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 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 dilution.



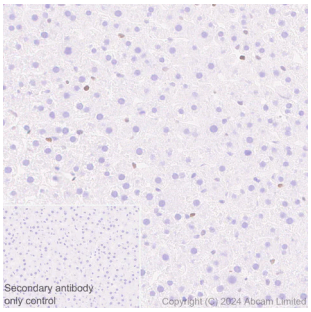
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KLF4 antibody [RM1174] (ab322110)

Immunohistochemical analysis of paraffin-embedded Mouse squamous cell carcinoma tissue labeling KLF4 with ab322110 at 1/2000 (0.255 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on mouse squamouse cell carcinoma. The section was incubated with ab322110 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. 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.



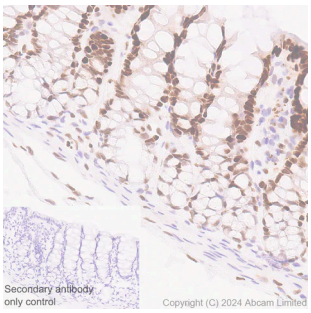
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KLF4 antibody [RM1174] (ab322110)

Immunohistochemical analysis of paraffin-embedded Mouse liver tissue labeling KLF4 with ab322110 at 1/2000 (0.255 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Low expression tissue: weak staining on mouse liver. The section was incubated with ab322110 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. 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.



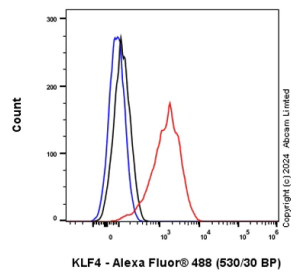
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KLF4 antibody [RM1174] (ab322110)

Immunohistochemical analysis of paraffin-embedded Rat liver tissue labeling KLF4 with ab322110 at 1/2000 (0.255 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Low expression tissue: weak staining on rat liver. The section was incubated with ab322110 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. 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.



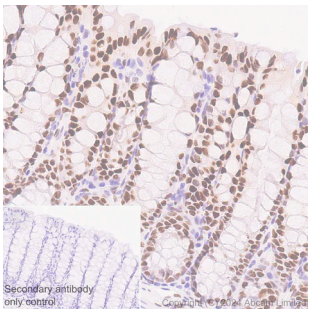
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KLF4 antibody [RM1174] (ab322110)

Immunohistochemical analysis of paraffin-embedded Rat colon tissue labeling KLF4 with ab322110 at 1/2000 (0.255 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on rat colon. The section was incubated with ab322110 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. 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.



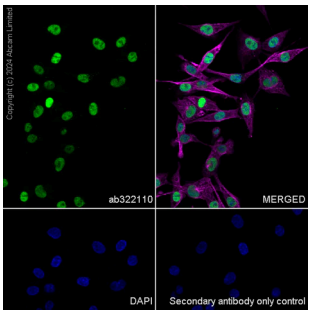
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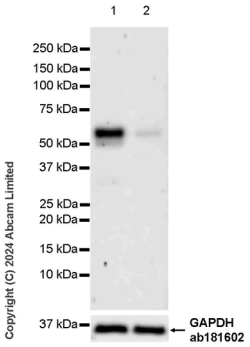
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KLF4 antibody [RM1174] (ab322110)

Immunohistochemical analysis of paraffin-embedded Mouse colon tissue labeling KLF4 with ab322110 at 1/2000 (0.255 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on mouse colon. The section was incubated with ab322110 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. 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.



Immunocytochemistry/ Immunofluorescence - Anti-KLF4 antibody [RM1174] (ab322110)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized C6 (rat glial tumor glial cell) cells labelling KLF4 with ab322110 at 1/50 dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green). Confocal image showing nuclear staining in C6 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 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 dilution.



Western blot - Anti-KLF4 antibody [RM1174] (ab322110)

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-KLF4 antibody [RM1174] (ab322110) at 1/1000 dilution

Lane 1:
HeLa (human cervical adenocarcinoma epithelial cell) transfected with scrambled siRNA control whole cell lysate at 20 µg

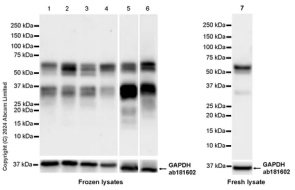
Lane 2:
HeLa transfected with siRNA specifically targeting KLF4 whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 60 kDa, 36 kDa

Exposure time: 180s



Western blot - Anti-KLF4 antibody [RM1174] (ab322110)

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

In lane 1-6, the lysate was stored at -80☒ prior to Western Blotting. The bands beneath the target band (60 kDa) are likey to be degradation products. In lanes 7, the lysates were freshly made and used for Western Blotting immediately to minimize protein degradation.

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

Exposure time: Lane 1-6: 48 seconds; Lane 7: 15 seconds

All lanes:
Western blot - Anti-KLF4 antibody [RM1174] (ab322110) at 1/1000 dilution

Lane 1:
NCCIT (human pluripotent embryonic carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 3:
HCT 116 (human colorectal carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 4:
DLD-1 (human colorectal adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 5:
F9 (mouse embryonal carcinoma epithelial cell) whole cell lysate at 20 µg

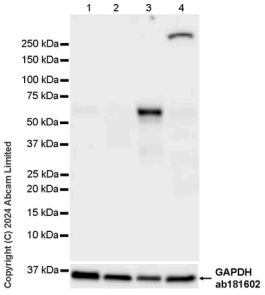
Lane 6:
C6 (rat glial tumor glial cell) whole cell lysate at 20 µg

Lane 7:
HeLa whole fresh cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 60 kDa, 36 kDa



Western blot - Anti-KLF4 antibody [RM1174] (ab322110)

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

Low expression tissue: brain, liver, spleen

Lysates were freshly made and used for Western blotting immediately to minimize protein degradation.

The identity of the higher MW band at approximately 250 kDa (in lane 4) is unknown.

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

All lanes:
Western blot - Anti-KLF4 antibody [RM1174] (ab322110) at 1/1000 dilution

Lane 1:
Rat brain fresh tissue lysate at 20 µg

Lane 2:
Rat liver fresh tissue lysate at 20 µg

Lane 3:
Rat testis fresh tissue lysate at 20 µg

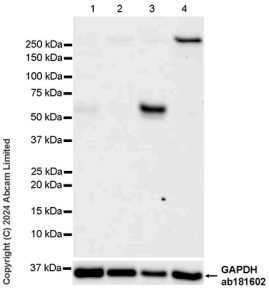
Lane 4:
Rat spleen fresh tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 60 kDa

Exposure time: 15s



Western blot - Anti-KLF4 antibody [RM1174] (ab322110)

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

Low expression tissue: brain, liver, spleen

Lysates were freshly made and used for Western blotting immediately to minimize protein degradation.

The identity of the higher MW band at approximately 250 kDa (in lane 4) is unknown.

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

All lanes:
Western blot - Anti-KLF4 antibody [RM1174] (ab322110) at 1/1000 dilution

Lane 1:
Mouse brain fresh tissue lysate

Lane 2:
Mouse liver fresh tissue lysate at 20 µg

Lane 3:

Mouse testis fresh tissue lysate at 20 µg

Lane 4:
Mouse spleen fresh tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 60 kDa, 36 kDa

Exposure time: 10s

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