abcam

ab215036

Anti-KLF4 antibody [EPR19590]

Anti-KLF4 antibody [EPR19590] (ab215036) is a rabbit monoclonal antibody detecting KLF4 in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF, ChIP-seq**. Suitable for **Human**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 40 publications

Recombinant | RabMAb | Advanced Validation | 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	EPR19590
Purification technique	Affinity purification Protein A
Concentration	0.57 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human

Dilution info	1/30
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
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.

ChIP-seq

Tested

Species	Human
Dilution info	8 µg for 10^7 Cells
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	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

What is this antibody validated in?
Anti-KLF4 antibody [EPR19590] (ab215036) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF), ChIP in Human samples.

What is the molecular weight of KLF4?
Anti-KLF4 [EPR19590] (ab215036) specifically detects a band for KLF4 (UniProt: O43474) at a molecular weight of 54kDa.

Trusted by the scientific community
Anti-KLF4 [EPR19590] (ab215036) was first used in a scientific publication in 2016 and has been cited over 40 times in peer-reviewed journals.

Reviewed by scientists
Anti-KLF4 [EPR19590] (ab215036) has over 5 independent reviews from customers.

Other related products
We have a range of other formats of antibody clone [EPR19590] also available for your convenience: ab215036, Carrier free - ab222235, Alexa Fluor® 647 - ab225516, Carrier free - ab252626, Biotin - ab322803

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

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/B-catenin and Notch pathways. Within the Wnt/B-catenin pathway KLF4 may cooperate with B-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

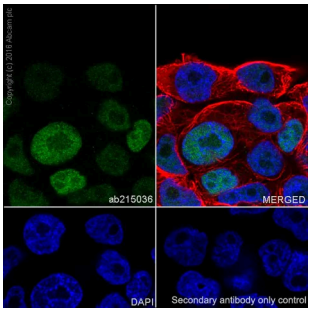
We do not recommend this combination. It is not covered by our product promise.

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:
Terms & Conditions.

11 product images



Immunocytochemistry/ Immunofluorescence - Anti-KLF4 antibody [EPR19590] (ab215036)

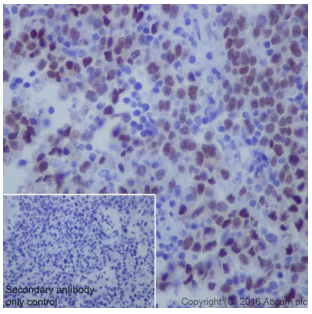
KLF4 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-KLF4 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized NCCIT (Human pluripotent embryonic carcinoma cell line) cells labeling KLF4 with ab215036 at 1/100 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green).
Confocal image showing nuclear staining on NCCIT cell line.

The nuclear counterstain is DAPI (blue).

Tubulin is detected with ab195889 (Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594)) at 1/200 dilution (red).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) at 1/1000 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KLF4 antibody [EPR19590] (ab215036)

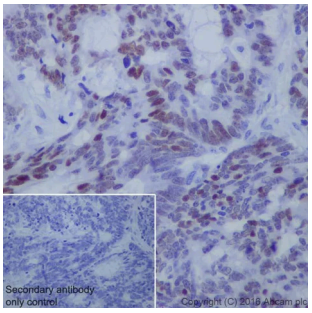
KLF4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-KLF4 antibody

Immunohistochemical analysis of paraffin-embedded human seminoma tissue labeling KLF4 with ab215036 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution. Nuclear staining on tumor cells of human seminoma is observed [PMID: 17614846].

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KLF4 antibody [EPR19590] (ab215036)

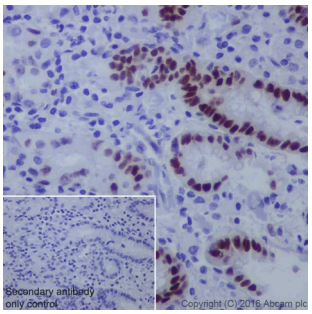
KLF4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-KLF4 antibody

Immunohistochemical analysis of paraffin-embedded human gastric cancer tissue labeling KLF4 with ab215036 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution. Nuclear staining on tumor cells of human gastric cancer is observed [PMID: 17614846].

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KLF4 antibody [EPR19590] (ab215036)

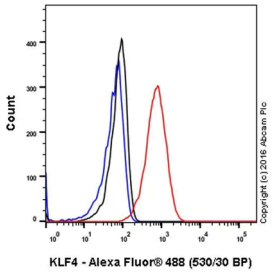
KLF4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-KLF4 antibody

Immunohistochemical analysis of paraffin-embedded human stomach tissue labeling KLF4 with ab215036 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.

Nuclear staining on human stomach is observed.

Counter stained with Hematoxylin.

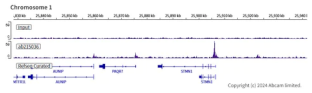
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-KLF4 antibody [EPR19590] (ab215036)

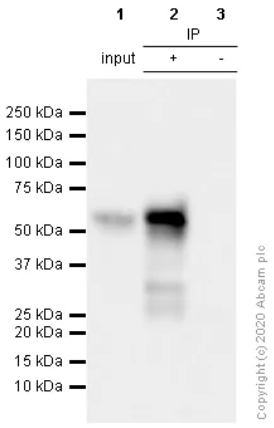
KLF4 Flow Cytometry (Intracellular) staining using rabbit Anti-KLF4 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed NCCIT (Human pluripotent embryonic carcinoma cell line) cells labeling KLF4 with ab215036 at 1/50 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730; black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (Alexa Fluor® 488) at 1/2000 dilution was used as the secondary antibody.



ChIP-sequencing - Anti-KLF4 antibody [EPR19590] (ab215036)

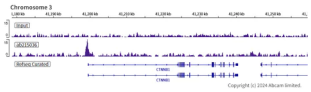
Chromatin was prepared from NCCIT cells. Cells were fixed with 1% formaldehyde for 10 minutes. ChIP was performed with 10^7 cells and 8 µg of ab215036 [EPR19590]. ChIP DNA was sequenced on the Illumina NovaSeq 6000 to a depth of 30 million reads. The input control is also shown.



Immunoprecipitation - Anti-KLF4 antibody [EPR19590] (ab215036)

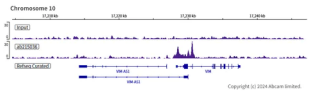
ab215036 (purified) at 1/30 dilution immunoprecipitating KLF4 in NCCIT whole cell lysate.
Lane 1 (input): NCCIT (Human pluripotent embryonic carcinoma epithelial cell) whole cell lysate 10 µg
Lane 2 (+): ab215036 & NCCIT whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab215036 in NCCIT whole cell lysate
For western blotting, ab215036 at 1/500 dilution (0.117 µg/ml) and veriBlot for IP secondary antibody (HRP) (ab131366) was used at 1/1000 dilution were used.
Blocking and diluting buffer: 5% NFDM /TBST .
All lanes:
Immunoprecipitation - Anti-KLF4 antibody [EPR19590] (ab215036)

Predicted band size: 15 kDa, 54 kDa



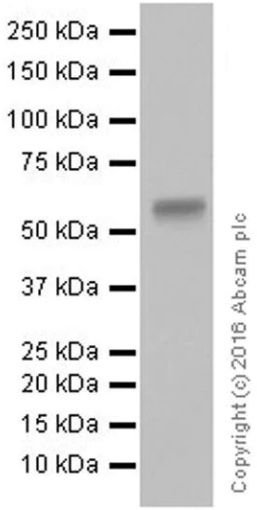
ChIP-sequencing - Anti-KLF4 antibody [EPR19590] (ab215036)

Chromatin was prepared from NCCIT cells. Cells were fixed with 1% formaldehyde for 10 minutes. ChIP was performed with 10^7 cells and 8 µg of ab215036 [EPR19590]. ChIP DNA was sequenced on the Illumina NovaSeq 6000 to a depth of 30 million reads. The input control is also shown.



ChIP-sequencing - Anti-KLF4 antibody [EPR19590] (ab215036)

Chromatin was prepared from NCCIT cells. Cells were fixed with 1% formaldehyde for 10 minutes. ChIP was performed with 10^7 cells and 8 µg of ab215036 [EPR19590]. ChIP DNA was sequenced on the Illumina NovaSeq 6000 to a depth of 30 million reads. The input control is also shown.



Western blot - Anti-KLF4 antibody [EPR19590] (ab215036)

KLF4 Western blot staining of NCCIT (Human pluripotent embryonic carcinoma cell line) whole cell lysate using rabbit Anti-KLF4 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-KLF4 antibody [EPR19590] (ab215036) at 1/1000 dilution

All lanes:
NCCIT (Human pluripotent embryonic carcinoma cell line) whole cell lysate at 10 µg

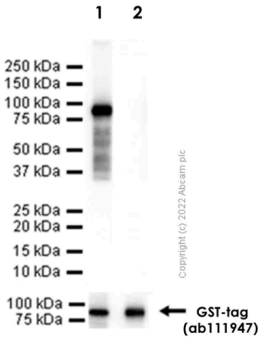
Secondary

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

Predicted band size: 54 kDa

Observed band size: 54 kDa

Exposure time: 10s



Western blot - Anti-KLF4 antibody [EPR19590] (ab215036)

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

Gel type: 4-20% gradient gel(SDS-PAGE)

All lanes:
Western blot - Anti-KLF4 antibody [EPR19590] (ab215036) at 1/1000 dilution

Lane 1:
GST tagged Recombinant Human KLF4 protein (Full length, 81 KDa)

Lane 2:
GST tagged Recombinant Human Adipose Triglyceride Lipase (PNPLA2) protein (Full length, 82 KDa)

Secondary

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

Performed under reducing conditions.

Predicted band size: 54 kDa

Observed band size: 81 kDa

Exposure time: 1s

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