abcam

ab243634

Anti-BAF170 antibody [EPR23066-21]

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	EPR23066-21
Purification technique	Affinity purification Protein A
Concentration	0.504 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	-

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/100
Notes	-

Species	Human
Dilution info	1/100
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.

Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Species	Human
Dilution info	1/500
Notes	-

Expected

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

IHC-P

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Target data

See full target information SMARCC2

Function	Involved in transcriptional activation and repression of select genes by chromatin remodeling (alteration of DNA-nucleosome topology). Component of SWI/SNF chromatin remodeling complexes that carry out key enzymatic activities, changing chromatin structure by altering DNA-histone contacts within a nucleosome in an ATP-dependent manner (PubMed:11018012). Can stimulate the ATPase activity of the catalytic subunit of these complexes (PubMed:10078207). May be required for CoREST dependent repression of neuronal specific gene promoters in non-neuronal cells (PubMed:12192000). Belongs to the neural progenitors-specific chromatin remodeling complex (npBAF complex) and the neuron-specific chromatin remodeling complex (nBAF complex). During neural development a switch from a stem/progenitor to a postmitotic chromatin remodeling mechanism occurs as neurons exit the cell cycle and become committed to their adult state. The transition from proliferating neural stem/progenitor cells to postmitotic neurons requires a switch in subunit composition of the npBAF and nBAF complexes. As neural progenitors exit mitosis and differentiate into neurons, npBAF complexes which contain ACTL6A/BAF53A and PHF10/BAF45A, are exchanged for homologous alternative ACTL6B/BAF53B and DPF1/BAF45B or DPF3/BAF45C subunits in neuron-specific complexes (nBAF). The npBAF complex is essential for the self-renewal/proliferative capacity of the multipotent neural stem cells. The nBAF complex along with CREST plays a role regulating the activity of genes essential for dendrite growth (By similarity). Critical regulator of myeloid differentiation, controlling granulocytopoiesis and the expression of genes involved in neutrophil granule formation (By similarity).

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	BAF170 also known as SMARCC2 is a protein that plays an essential role in chromatin remodeling. The molecular mass of BAF170 is approximately 131 kDa. It is expressed in various tissues including the brain and heart where it helps in altering chromatin structure to allow for transcriptional regulation. The protein contributes to the regulation of gene expression by modulating the accessibility of chromatin-bound transcription factors.
Biological function summary	BAF170 forms an integral part of the SWI/SNF chromatin remodeling complex which influences how genes are expressed in the cell. This complex alters the position of nucleosomes enabling the access of transcriptional machinery to DNA. Through this action BAF170 regulates the expression of genes necessary for processes such as cell differentiation and proliferation. The SWI/SNF complex interacts with multiple other proteins creating a dynamic regulatory environment for gene expression.
Pathways	BAF170 participates in significant cellular pathways like the Wnt signaling pathway and the Hedgehog pathway. These pathways influence many vital cellular processes including development and cell cycle regulation. In the Wnt pathway BAF170 works in concert with other proteins such as beta-catenin to regulate target gene expression. Similarly in the Hedgehog pathway BAF170 interacts with proteins involved in the signaling cascade affecting cellular responses and developmental processes.
Associated diseases and disorders	Aberrations in BAF170 activity associate with certain cancers and neurodevelopmental disorders. Alterations in the SWI/SNF complex's function where BAF170 is a central component can result in malignant transformations leading to tumors. Moreover disruptions in BAF170's regulation are linked to issues impacting brain development possibly influencing conditions such as autism spectrum disorders. Researchers continue to investigate the protein's role in other pathological states providing insight into its contribution to disease mechanisms.

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

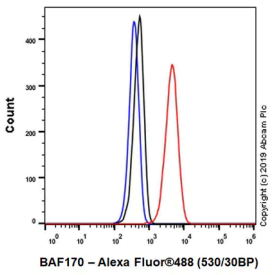
We do not recommend this combination. It is not covered by our product promise.

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.

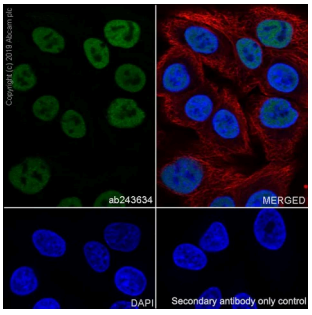
8 product images



Flow Cytometry (Intracellular) - Anti-BAF170 antibody [EPR23066-21] (ab243634)

BAF170 Flow Cytometry (Intracellular) staining using rabbit Anti-BAF170 antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized A549 (human lung carcinoma epithelial cell) cells labelling BAF170 with ab243634 at 1/500 (Red) compared with a Rabbit monoclonal IgG (ab172730) / Black isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab243634).

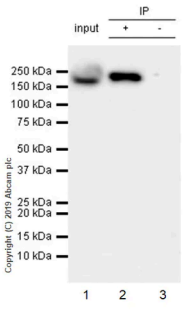


Immunocytochemistry/ Immunofluorescence - Anti-BAF170 antibody [EPR23066-21] (ab243634)

BAF170 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-BAF170 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized A549 (human lung carcinoma epithelial cell) cells labeling BAF170 with ab243634 at 1/100 dilution, followed by ab150077 AlexaFluor® 488 Goat anti-Rabbit secondary antibody at 1/1000 dilution (Green). Confocal image showing nuclear staining in A549 cell line. The nuclear counter stain is DAPI (Blue). Tubulin is detected with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) at 1/200 dilution (Red).

PBS only control: Used PBS instead of primary antibody, followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1/1000 dilution.



Immunoprecipitation - Anti-BAF170 antibody [EPR23066-21] (ab243634)

BAF170 was immunoprecipitated from 0.35 mg K-562 (Human chronic myelogenous leukemia lymphoblast) whole cell lysate 10ug with ab243634 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab243634 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1/5000 dilution. Lane 1: K-562 (Human chronic myelogenous leukemia lymphoblast) whole cell lysate 10ug
Lane 2: ab243634 IP in K-562 whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab243634 in K-562 whole cell lysate

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

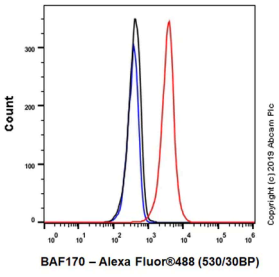
Exposure time: 30 seconds

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab243634).

All lanes:
Immunoprecipitation - Anti-BAF170 antibody [EPR23066-21] (ab243634)

Predicted band size: 133 kDa

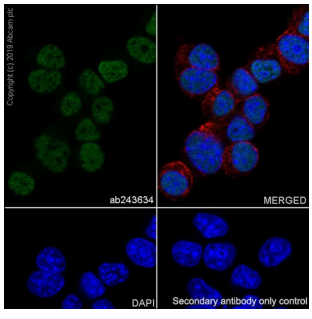
Observed band size: 170 kDa



Flow Cytometry (Intracellular) - Anti-BAF170 antibody [EPR23066-21] (ab243634)

BAF170 Flow Cytometry (Intracellular) staining using rabbit Anti-BAF170 antibody

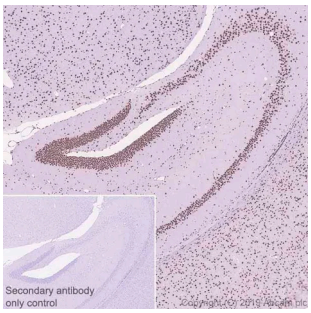
Intracellular flow cytometric analysis of Neuro-2a (mouse neuroblastoma neuroblast) cells labelling BAF170 with ab243649 at 1/500 (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti rabbit IgG (Alexa Fluor®647, ab150077) at 1/2000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-BAF170 antibody [EPR23066-21] (ab243634)

BAF170 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-BAF170 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized Neuro-2a (mouse neuroblastoma neuroblast) cells labeling BAF170 with ab243634 at 1/100 dilution, followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1/1000 dilution (Green). Confocal image showing nuclear staining in Neuro-2a cell line. The nuclear counter stain is DAPI (Blue). Tubulin is detected with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) at 1/200 dilution (Red).
PBS only control: Used PBS instead of primary antibody, followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1/1000 dilution.



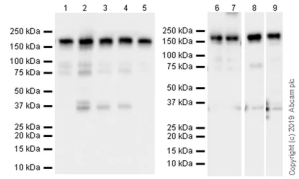
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-BAF170 antibody [EPR23066-21] (ab243634)

BAF170 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-BAF170 antibody

Immunohistochemical analysis of paraffin-embedded mouse hippocampus tissue labeling BAF170 with ab243634 at 1/1000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on mouse hippocampus (PMID: 27392482) The section was incubated with ab243634 for 15 mins at RT. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab243634).



Western blot - Anti-BAF170 antibody [EPR23066-21] (ab243634)

BAF170 Western blot staining using rabbit Anti-BAF170 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
This antibody also recognizes weak unidentifiable bands below 100kDa.

All lanes:
Western blot - Anti-BAF170 antibody [EPR23066-21] (ab243634) at 1/1000 dilution

Lane 1:
K562 (human chronic myelogenous leukemia lymphoblast), whole cell lysate at 20 µg

Lane 2:
A549 (human lung carcinoma epithelial cell), whole cell lysate at 20 µg

Lane 3:
HeLa (human cervix adenocarcinoma epithelial cell), whole cell lysate at 20 µg

Lane 4:
293T (human embryonic kidney epithelial cell), whole cell lysate at 20 µg

Lane 5:
C2C12 (mouse myoblasts myoblast), whole cell lysate at 20 µg

Lane 6:
Mouse brain tissue lysate at 10 µg

Lane 7:
Mouse lung tissue lysate at 10 µg

Lane 8:
Rat brain tissue lysate at 10 µg

Lane 9:
Rat liver tissue lysate at 10 µg

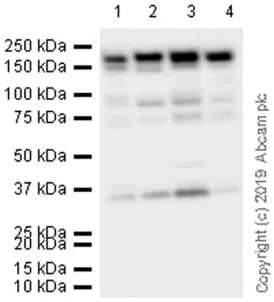
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 133 kDa

Observed band size: 170 kDa

Exposure time: 3s



Western blot - Anti-BAF170 antibody [EPR23066-21] (ab243634)

BAF170 Western blot staining using rabbit Anti-BAF170 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
This antibody also recognizes weak unidentifiable bands below 100kDa.

All lanes:
Western blot - Anti-BAF170 antibody [EPR23066-21] (ab243634) at 1/1000 dilution

Lane 1:
C6 (rat glial tumor glial cell), whole cell lysate at 10 µg

Lane 2:
RAW 264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage) whole cell at 10 µg

Lane 3:
PC-12 (rat adrenal gland pheochromocytoma) whole cell lysate at 10 µg

Lane 4:
NIH/3T3 (mouse embryonic fibroblast), whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 133 kDa

Observed band size: 170 kDa

Exposure time: 3s

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