abcam

ab172638

Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade

Recombinant | RabMAb | KO Validated | 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), 0.21% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR12395
Purification technique	Affinity purification Protein A
Concentration	0.549 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	-

Expected

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

Not recommended

Species	Mouse
Dilution info	-
Notes	-

ChIP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Rat
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Not recommended

Species	Mouse
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	**For unpurified use at 1/250 - 1/500.**

Expected

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

Not recommended

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Not recommended

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information SMARCC1

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. May stimulate the ATPase activity of the catalytic subunit of the complex (PubMed:10078207, PubMed:29374058). 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).

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

Species reactivity
Mouse: We have preliminary internal testing data to indicate this antibody may not react with this species. Please contact us for more information.

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	SMARCC1 also known as BAF155 is a component of the SWI/SNF chromatin remodeling complex with a molecular weight of approximately 155 kDa. It plays a role in modifying the structure of chromatin which affects the accessibility of DNA to transcription factors and other proteins. SMARCC1 expresses widely in various tissues particularly where regulation of gene transcription is essential. This protein acts as a scaffold facilitating the assembly of the SWI/SNF complex which is vital for the regulation of transcriptional processes.

Biological function summary	SMARCC1 participates in remodeling chromatin architecture to facilitate or repress gene transcription. It forms an integral part of the SWI/SNF complex which is critical for maintaining proper chromatin structure and function. This complex influences gene expression during developmental processes cell cycle regulation and DNA repair. SMARCC1 interacts with other core components of the SWI/SNF complex such as BAF47 and BRG1 ensuring correct and responsive chromatin modification.
Pathways	SMARCC1 participates in the ATP-dependent chromatin remodeling pathway an important player in gene expression control. This remodeling is connected to the cell cycle pathway as it regulates genes required for cell proliferation. Within these pathways SMARCC1 closely interacts with transcription factors such as c-Myc and other chromatin regulators coordinating the expression of target genes necessary for cell growth and differentiation.
Associated diseases and disorders	SMARCC1 is linked to cancer and neurodevelopmental disorders. Alterations in SMARCC1 function or expression can lead to dysregulated gene expression contributing to tumorigenesis by affecting pathways involved in cell growth and apoptosis. For instance its association with BRG1 influences pathways implicated in various cancers including solid tumors. Additionally SMARCC1 dysfunction connects to certain neurodevelopmental disorders through the modification of genes critical for brain development and function.

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

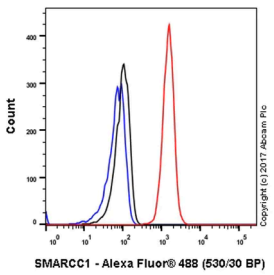
We do not recommend this combination. It is not covered by our product promise.

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.

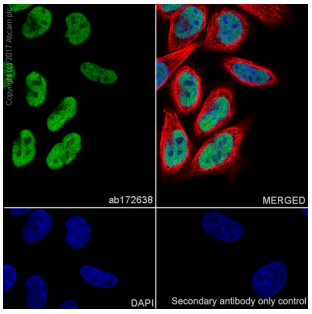
10 product images



Flow Cytometry (Intracellular) - Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade (ab172638)

SMARCC1/BAF155 Flow Cytometry (Intracellular) staining using rabbit Anti-SMARCC1/BAF155 antibody

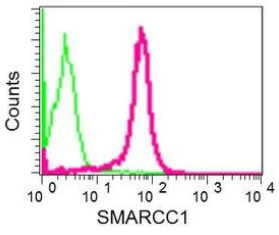
Intracellular Flow Cytometry analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling SMARCC1/BAF155 with purified ab172638 at 1/30 dilution (red). Cells were fixed with 4% Paraformaldehyde. A Goat anti rabbit IgG (Alexa Fluor® 488) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunocytochemistry/ Immunofluorescence - Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade (ab172638)

SMARCC1/BAF155 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SMARCC1/BAF155 antibody

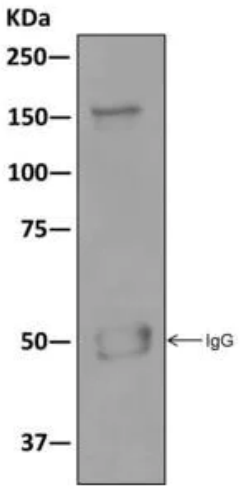
Immunocytochemistry/ Immunofluorescence analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling SMARCC2 with Purified ab172638 at 1:100 dilution. Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor ® 594) 1:200 (2.5 µg/ml). ab150077 Goat anti rabbit IgG(Alexa Fluor ® 488) was used as the secondary antibody at 1:1000 dilution. DAPI nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Flow Cytometry (Intracellular) - Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade (ab172638)

SMARCC1/BAF155 Flow Cytometry (Intracellular) staining using rabbit Anti-SMARCC1/BAF155 antibody

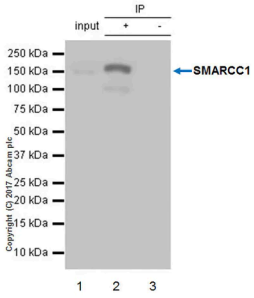
Intracellular flow cytometric analysis of permeabilized Jurkat cells usingunpurified ab172638 at a 1/10 dilution (red) or a rabbit IgG (negative) (green).



Immunoprecipitation - Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade (ab172638)

Western blot analysis on immunoprecipitation pellet from Jurkat cell lysate using unpurified ab172638 at a 1/10 dilution.
All lanes:
Immunoprecipitation - Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade (ab172638)

Predicted band size: 123 kDa



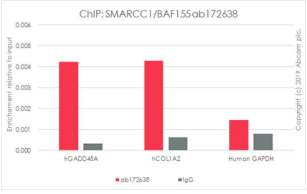
Immunoprecipitation - Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade (ab172638)

ab172638 (purified) at 1:30 dilution (2µg) immunoprecipitating SMARCC1/BAF155 in Jurkat whole cell lysate.

Lane 1 (input): Jurkat (Human T cell leukemia T lymphocyte) whole cell lysate, 10µg
Lane 2 (+): ab172638 & Jurkat whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab172638 in Jurkat whole cell lysate

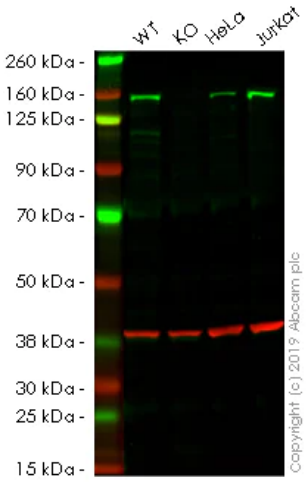
For western blotting, VeriBlot for IP Detection Reagent (HRP) (ab131366) was used for detection at 1:1000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST."
All lanes:
Immunoprecipitation - Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade (ab172638)

Predicted band size: 123 kDa



ChIP - Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade (ab172638)

Chromatin was prepared from MDA-MB-231 cells according to the Abcam X-ChIP protocol. Cells were fixed with formaldehyde for 10 minutes.
The ChIP was performed with 25 µg of chromatin, 5 µg of ab172638 (red), and 20 µl of Protein A/G sepharose beads. 5 µg of rabbit normal IgG was added to the beads control (gray). The immunoprecipitated DNA was quantified by real time PCR (Taqman approach for active and inactive loci).
Primers and probes are located in the first kb of the transcribed region.



Western blot - Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade (ab172638)

Lanes 1 - 4: Merged signal (red and green). Green - ab172638 observed at 123 kDa. Red - loading control, ab8245, observed at 37 kDa.
ab172638 was shown to recognize in wild-type HEK293 cells as signal was lost at the expected MW in SMARCC1 knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and SMARCC1 knockout samples were subjected to SDS-PAGE. The membrane was blocked with 3% Milk. ab172638 and ab8245 (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1/5000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade (ab172638) at 1/5000 dilution

Lane 1:
Wild-type HEK293 (Human epithelial cell line from embryonic kidney) whole cell lysate at 20 µg

Lane 2:
SMARCC1 knockout HEK293 (Human epithelial cell line from embryonic kidney) whole cell lysate at 20 µg

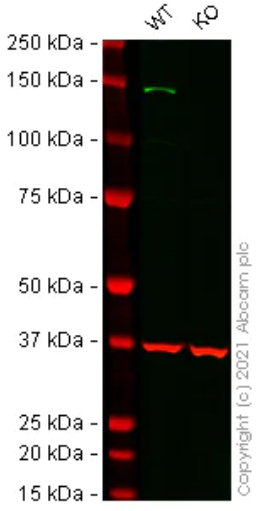
Lane 2:
Western blot - Human SMARCC1 (BAF155) knockout HEK-293 cell line (ab261854)

Lane 3:
HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 20 µg

Lane 4:
Jurkat (Human T cell leukemia cell line from peripheral blood) whole cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 123 kDa



Western blot - Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade (ab172638)

SMARCC1/BAF155 Western blot staining using rabbit Anti-SMARCC1/BAF155 antibody

Lanes 1 - 2: Merged signal (red and green). Green - ab172638 observed at 112 kDa. Red - loading control ab8245 (Mouse anti-GAPDH antibody [6C5]) observed at 37 kDa.
ab172638 was shown to react with SMARCC1 in wild-type HeLa cells in Western blot with loss of signal observed in SMARCC1 knockout cell line ab264859 (SMARCC1 knockout cell lysate ab258198). Wild-type HeLa and SMARCC1 knockout cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3 % milk in TBS-T (0.1 % Tween®) before incubation with ab172638 and ab8245 (Mouse anti-GAPDH antibody [6C5]) overnight at 4 °C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were incubated with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 h at room temperature before imaging.

All lanes:
Western blot - Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade (ab172638) at 1/1000 dilution

Lane 1:

Wild-type HeLa cell lysate at 20 µg

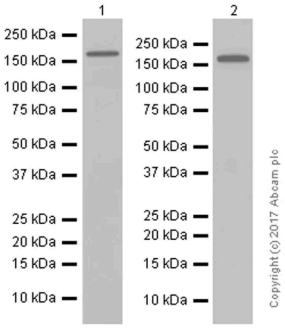
Lane 2:
SMARCC1 knockout HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human SMARCC1 (BAF155) knockout HeLa cell line (ab264859)

Performed under reducing conditions.

Predicted band size: 123 kDa

Observed band size: 112 kDa



Western blot - Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade (ab172638)

SMARCC1/BAF155 Western blot staining using rabbit Anti-SMARCC1/BAF155 antibody

Blocking and diluting buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade (ab172638) at 1/5000 dilution

Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates at 15 µg

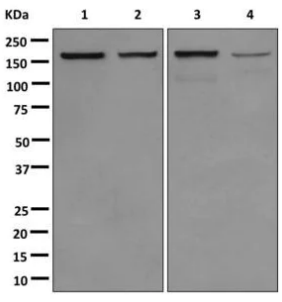
Lane 2:
Rat testis lysates at 15 µg

Secondary

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

Predicted band size: 123 kDa

Observed band size: 155 kDa



Western blot - Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade (ab172638)

All lanes:
Western blot - Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade (ab172638) at 1/1000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
K562 cell lysate at 10 µg

Lane 3:
Jurkat cell lysate at 10 µg

Lane 4:
293T cell lysate at 10 µg

Predicted band size: 123 kDa

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