abcam

ab232354

Anti-SMARCC1/BAF155 antibody [EPR12395] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR12395
Purification technique	Affinity purification Protein A

Reactivity data

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

ChIP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

WB

Tested

Species	Human, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
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	-

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	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab232354 is the carrier-free version of ab172638.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

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

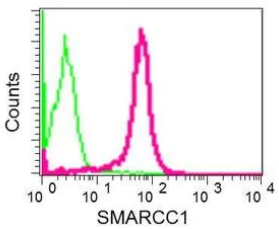
We do not recommend this combination. It is not covered by our product promise.

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.

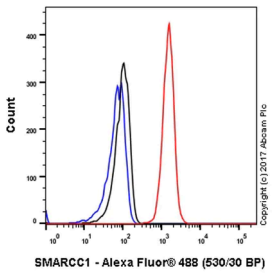
7 product images



Flow Cytometry (Intracellular) - Anti-SMARCC1/BAF155 antibody [EPR12395] - BSA and Azide free (ab232354)

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

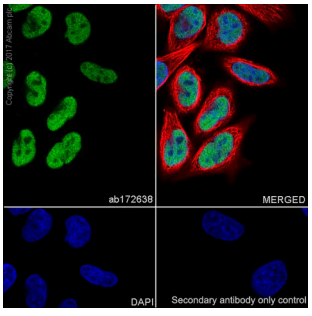
Intracellular flow cytometric analysis of permeabilized Jurkat cells using unpurified ab172638 at a 1/10 dilution (red) or a rabbit IgG (negative) (green).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab172638).



Flow Cytometry (Intracellular) - Anti-SMARCC1/BAF155 antibody [EPR12395] - BSA and Azide free (ab232354)

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

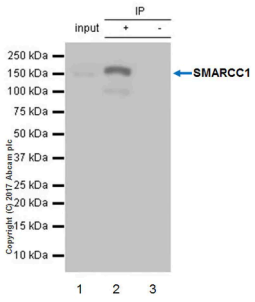
Intracellular Flow Cytometry analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling SMARCC1/BAF155 with purified ab172638 at 1/30 dilution (red). Cells were fixed with 4% Paraformaldehyde. A Goat anti rabbit IgG (Alexa Fluor® 488) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab172638).



Immunocytochemistry/ Immunofluorescence - Anti-SMARCC1/BAF155 antibody [EPR12395] - BSA and Azide free (ab232354)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab172638).



Immunoprecipitation - Anti-SMARCC1/BAF155 antibody [EPR12395] - BSA and Azide free (ab232354)

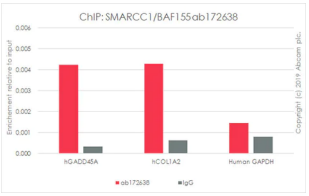
ab172638 (purified) at 1:30 dilution (2µg) immunoprecipitating SMARCC1/BAF155 in Jurkat whole cell lysate.

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."
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab172638).

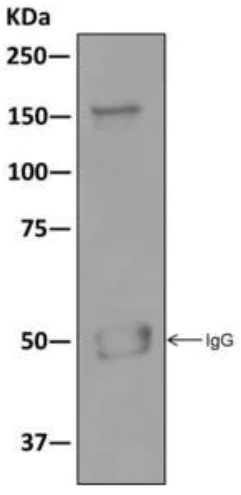
All lanes:
Immunoprecipitation - Anti-SMARCC1/BAF155 antibody [EPR12395] - ChIP Grade (ab172638)

Predicted band size: 123 kDa



ChIP - Anti-SMARCC1/BAF155 antibody [EPR12395] - BSA and Azide free (ab232354)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab172638).

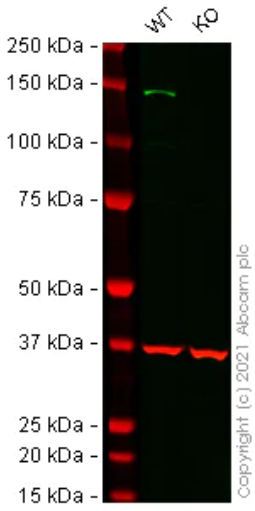


Immunoprecipitation - Anti-SMARCC1/BAF155 antibody [EPR12395] - BSA and Azide free (ab232354)

Western blot analysis on immunoprecipitation pellet from Jurkat cell lysate using unpurified ab172638 at a 1/10 dilution.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab172638).

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

Predicted band size: 123 kDa



Western blot - Anti-SMARCC1/BAF155 antibody [EPR12395] - BSA and Azide free (ab232354)

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

This data was developed using the same antibody clone in a different buffer formulation (ab172638).
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

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