abcam

ab256304

Anti-SMARCD2 antibody [EPR20860-251] - 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
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR20860-251
Purification technique	Affinity purification Protein A
Specificity	IHC is recommended only for mouse and rat.
Concentration	0.999 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse

Dilution info	-
Notes	-

Expected

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

WB

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

ICC/IF

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-

Notes	-

Expected

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

IHC-P

Tested

Species	Rat
Dilution info	-
Notes	-

Expected

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

Target data

See full target information SMARCD2

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:22952240, PubMed:26601204). Critical regulator of myeloid differentiation, controlling granulocytopoiesis and the expression of genes involved in neutrophil granule formation (PubMed:28369036).

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

ab256304 is the carrier-free version of ab220164.

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	The SMARCD2 protein also known as BAF60B functions as a subunit of the SWI/SNF chromatin remodeling complex. It possesses a molecular mass of approximately 60 kDa. The protein is widely expressed with notable levels observed in hematopoietic tissues and the central nervous system. SMARCD2 contributes to the modulation of chromatin structure thereby facilitating accessibility of transcriptional machinery to DNA.
Biological function summary	SMARCD2 plays a significant role in the regulation of transcription. As a component of the chromatin remodeling complex it influences gene expression linked to differentiation and development. The SWI/SNF complex which includes SMARCD2 modulates nucleosome positioning on DNA therefore impacting cellular

	responses to various signaling pathways. The regulatory effects of SMARCD2 within the complex are important for proper lineage commitment and cell fate decisions.
Pathways	SMARCD2 interacts within the context of transcriptional regulation. It is notably involved in the Wnt signaling pathway and the Notch signaling pathway. In these pathways SMARCD2 interacts with proteins like beta-catenin and RBPJ directly influencing the transcription of downstream target genes. SMARCD2's activity within these signaling modules contributes to the regulation of proliferation and differentiation processes.
Associated diseases and disorders	SMARCD2 is linked to acute myeloid leukemia and neurodevelopmental disorders. Aberrations in the SWI/SNF complex including altered SMARCD2 function can lead to disrupted gene regulation and contribute to leukemogenesis. Similarly mutations affecting SMARCD2 are associated with neurodevelopmental syndromes such as Coffin-Siris syndrome. In these contexts the interplay between SMARCD2 and other complex members such as SMARCA4 influences disease pathogenesis and progression.

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

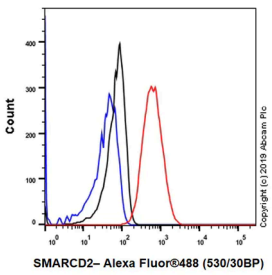
We do not recommend this combination. It is not covered by our product promise.

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.

6 product images

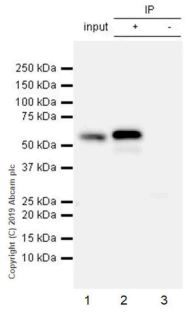


Flow Cytometry (Intracellular) - Anti-SMARCD2 antibody [EPR20860-251] - BSA and Azide free (ab256304)

SMARCD2 Flow Cytometry (Intracellular) staining using rabbit Anti-SMARCD2 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cell line labeling SMARCD2 with ab220164 at 1/600 (red) compared with a Rabbit monoclonal IgG (ab172730) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue).
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 (ab220164).



Immunoprecipitation - Anti-SMARCD2 antibody [EPR20860-251] - BSA and Azide free (ab256304)

SMARCD2 was immunoprecipitated from 0.35 mg HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate with ab220164 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab220164 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used at 1/5000 dilution.
Lane 1: HeLa whole cell lysate 10 µg (Input).
Lane 2: ab220164 IP in HeLa whole cell lysate .
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab220164 in HeLa whole cell lysate.

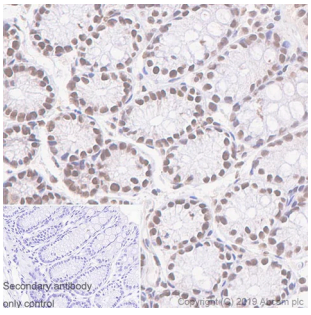
Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: 40 seconds.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab220164).

All lanes:
Immunoprecipitation - Anti-SMARCD2 antibody [EPR20860-251] (ab220164)

Predicted band size: 52 kDa

Observed band size: 59 kDa

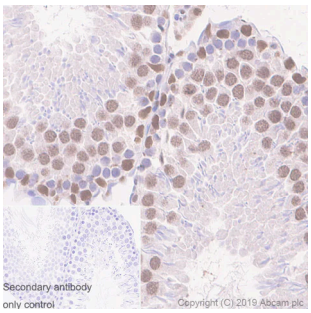


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SMARCD2 antibody [EPR20860-251] - BSA and Azide free (ab256304)

Immunohistochemical analysis of paraffin-embedded mouse colon tissue labeling SMARCD2 with ab220164 at 1/200 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on mouse colon (PMID: 20148946, 28303890, 25622893). The section was incubated with ab220164 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is 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 (ab220164).

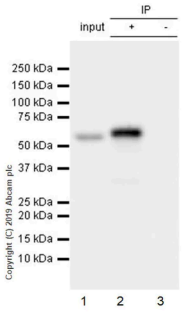


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SMARCD2 antibody [EPR20860-251] - BSA and Azide free (ab256304)

Immunohistochemical analysis of paraffin-embedded rat testis tissue labeling SMARCD2 with ab220164 at 1/200 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on rat testis (PMID: 20148946, 28303890, 25622893). The section was incubated with ab220164 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is 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 (ab220164).



Immunoprecipitation - Anti-SMARCD2 antibody [EPR20860-251] - BSA and Azide free (ab256304)

SMARCD2 was immunoprecipitated from 0.35 mg mouse P70 thymus lysate with ab220164 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab220164 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used at 1/5000 dilution.
Lane 1: Mouse P70 thymus lysate 10 µg (Input).
Lane 2: ab220164 IP in mouse P70 thymus lysate .
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab220164 in mouse P70 thymus lysate.

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: 3 seconds.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab220164).

All lanes:
Immunoprecipitation - Anti-SMARCD2 antibody [EPR20860-251] (ab220164) at 1/1000 dilution

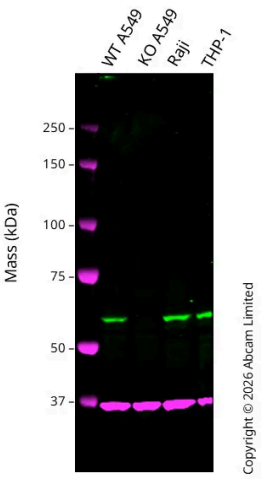
Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Predicted band size: 52 kDa

Observed band size: 59 kDa

Exposure time: 3s



Western blot - Anti-SMARCD2 antibody [EPR20860-251] - BSA and Azide free (ab256304)

SMARCD2 Western blot staining using rabbit Anti-SMARCD2 antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA and sodium azide (ab220164).

Western blot: Anti-SMARCD2 antibody [EPR20860-251] ab220164 staining at 1/1000 dilution, shown in green; Mouse anti GAPDH ab8245 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 59 kDa in Wild-type A549 cell line with no signal observed at this size in SMARCD2 knockout A549 cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5% Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-SMARCD2 antibody [EPR20860-251] (ab220164) at 1/1000 dilution

Lane 1:
Wild-type A549 cell lysates at 20 µg

Lane 2:
SMARCD2 knockout A549 cell lysates at 20 µg

Lane 3:
Raji cell lysates at 20 µg

Lane 4:
THP-1 cell lysates at 20 µg

Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 59 kDa

Observed band size: 59 kDa

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