abcam

ab233399

Anti-SNF5/SMARCB1 antibody [EPR20189] - 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	EPR20189
Purification technique	Affinity purification Protein A
Concentration	1.063 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Expected

Species	Mouse, Rat, Human
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

Expected

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

Flow Cyt (Intra)

Expected

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

IHC-P

Tested

Species	Human
Dilution info	-

Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information SMARCB1

Function	Core component of the BAF (hSWI/SNF) complex. This ATP-dependent chromatin-remodeling complex plays important roles in cell proliferation and differentiation, in cellular antiviral activities and inhibition of tumor formation. The BAF complex is able to create a stable, altered form of chromatin that constrains fewer negative supercoils than normal. This change in supercoiling would be due to the conversion of up to one-half of the nucleosomes on polynucleosomal arrays into asymmetric structures, termed altosomes, each composed of 2 histones octamers. Stimulates in vitro the remodeling activity of SMARCA4/BRG1/BAF190A. Involved in activation of CSF1 promoter. 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). Plays a key role in cell-cycle control and causes cell cycle arrest in G0/G1.

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

ab233399 is the carrier-free version of ab222519.

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	SNF5/SMARCB1 also known as INI1 or BAF47 is a member of the SWI/SNF chromatin remodeling complex. It acts in modifying chromatin structure to regulate gene expression. SNF5/SMARCB1 possesses a mass of approximately 47 kDa. The protein expresses ubiquitously in various tissues with notable presence in the nucleus. Through its mechanical activity in chromatin remodeling SNF5/SMARCB1 facilitates transcriptional regulation and chromosomal stability.
Biological function summary	SNF5/SMARCB1 acts as an integral component of the SWI/SNF complex. This complex functions in altering nucleosome positioning on DNA impacting gene expression linked to cell cycle regulation differentiation and DNA repair. By working within this complex SNF5/SMARCB1 helps in the activation or repression of specific gene sets based on cellular requirements displaying an essential role in maintaining normal cellular function. The interplay of SNF5/SMARCB1 with other chromatin-modifying enzymes extends its influence across various genetic pathways.

Pathways	The involvement of SNF5/SMARCB1 in the cell cycle and transcription regulation pathways is acknowledged. It participates intimately in the p53 signaling pathway which is critical for cell cycle checkpoints and apoptotic responses. SNF5/SMARCB1 engages with other proteins such as p53 and RB1 coordinating to maintain genomic integrity and proper transcriptional programming. These pathways spotlight the protein's influence in important cell fate decisions.
Associated diseases and disorders	SNF5/SMARCB1 mutations or deletions associate closely with malignant rhabdoid tumors an aggressive pediatric cancer and schwannomatosis a disorder involving benign nerve sheath tumors. The loss of SNF5/SMARCB1 disrupts the SWI/SNF complex's function triggering unregulated cell proliferation and cancer progression. Within these disorders the SWI/SNF complex itself which contains other subunits like BRG1 and BRM is also impacted highlighting SMARCB1's critical role in tumor suppression.

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

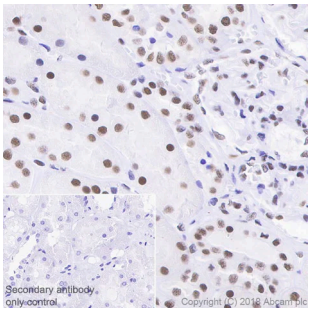
We do not recommend this combination. It is not covered by our product promise.

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.

2 product images



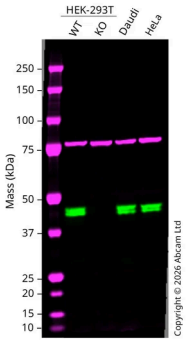
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SNF5/SMARCB1 antibody [EPR20189] - BSA and Azide free (ab233399)

SNF5/SMARCB1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SNF5/SMARCB1 antibody

Immunohistochemical analysis of paraffin-embedded human kidney tissue labeling SNF5/SMARCB1 with ab222519 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP), Ready to use. Nuclear staining in human kidney 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) Ready to use.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab222519).

Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Western blot - Anti-SNF5/SMARCB1 antibody [EPR20189] - BSA and Azide free (ab233399)

SNF5/SMARCB1 Western blot staining using rabbit Anti-SNF5/SMARCB1 antibody

This data was developed using ab222519, the same antibody clone in a different buffer formulation.

Western blot: Anti-SNF5/SMARCB1 antibody [EPR20189] ab222519 staining at 1/1000 dilution, shown in green; Mouse anti-CANX ab238078 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 44 kDa in Wild-type HEK-293T cell lysates with no signal observed at this size in SMARCB1 knockout HEK-293T 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-SNF5/SMARCB1 antibody [EPR20189] (ab222519) at 1/1000 dilution

Lane 1:
Western blot - Human wild-type HEK-293T cell line (ab255449) at 20 µg

Lane 2:
Western blot - Human SMARCB1 (SNF5) knockout HEK-293T cell line (ab267269) at 20 µg

Lane 3:
Daudi at 20 µg

Lane 4:
HeLa 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: 44 kDa

Observed band size: 44 kDa

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