abcam

ab240648

Anti-SMARCA2 / BRM antibody [EPR23103-44]

Anti-SMARCA2 / BRM antibody [EPR23103-44] (ab240648) is a rabbit monoclonal antibody detecting SMARCA2 / BRM in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF**. Suitable for **Human, Mouse**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency

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), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR23103-44
Purification technique	Affinity purification Protein A
Concentration	0.463 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Mouse, Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Species	Human
Dilution info	1/50
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

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

IHC-P

Tested

Species	Mouse
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Target data

See full target information SMARCA2

Function	ATPase 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. Binds DNA non-specifically (PubMed:15075294, PubMed:22952240, PubMed:26601204). 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

Product Specifications
Anti-SMARCA2 / BRM antibody [EPR23103-44] (ab240648) was developed by Abcam using patented rabbit monoclonal antibody technology and is validated for use in Flow Cyt (Intra), ICC/IF, IHC-P, WB in human, mouse samples.
Anti-SMARCA2 / BRM antibody [EPR23103-44] (ab240648) specifically detects SMARCA2 / BRM (UniProt ID: P51531; Molecular weight: 181kDa) and is sold in 100 µL and 1 mL selling sizes.

Quality and Validation
Abcam's high quality manufacturing and validation processes ensure Anti-SMARCA2 / BRM antibody [EPR23103-44] (ab240648) has high sensitivity and specificity alongside high lot-to-lot consistency and reproducibility.
The specificity of Anti-SMARCA2 / BRM antibody [EPR23103-44] (ab240648) has been confirmed by testing in knockout samples.

Related Products
Antibody clone EPR23103-44 is also available pre-conjugated to a variety of labels for your convenience - PE, APC, HRP, Alexa Fluor® 488, Alexa Fluor® 647, Alkaline Phosphatase, Alexa Fluor® 594, Alexa Fluor® 555, Alexa Fluor® 568, Alexa Fluor® 750 (ab305746, ab305747, ab305748, ab307770, ab307771, ab308820, ab310553, ab312082, ab312560, ab321489).

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	The SMARCA2 protein also known as BRM (Brahma-related gene 1) is a component of the SWI/SNF chromatin remodeling complex. This protein has a molecular mass of approximately 185 kDa. Scientists observe that SMARCA2/BRM is expressed in various tissues including the brain and liver. It acts as an ATPase which moves histone octamers in chromatin and facilitates access to DNA. SMARCA2/BRM plays an important role in transcriptional activation by modifying chromatin structure.
Biological function summary	SMARCA2/BRM interacts with other subunits to form the SWI/SNF complex important for regulating gene expression. This complex helps control the transcription of specific genes by repositioning nucleosomes. SMARCA2/BRM modulates cell cycle progression and differentiation as it influences transcription factor access to DNA. Its activity is essential for normal cellular responses maintaining cell homeostasis and development.
Pathways	SMARCA2/BRM participates significantly in the cell cycle and Wnt signaling pathways. In the cell cycle it cooperates with proteins like p53 to regulate genes involved in cell growth and apoptosis. In the Wnt pathway SMARCA2/BRM interacts with beta-catenin to influence cellular responses to Wnt signals. These pathways are critical for cell proliferation and maintaining cellular integrity and SMARCA2/BRM serves as a pivotal modulator within these systems.
Associated diseases and disorders	SMARCA2/BRM has a connection to cancer and Coffin-Siris syndrome. Altered expression of SMARCA2/BRM has been observed in several cancers where it frequently interacts with other oncogenic proteins disrupting normal regulatory functions and promoting tumorigenesis. Meanwhile mutations in SMARCA2 can lead to Coffin-Siris syndrome a genetic disorder affecting development and it is connected with other proteins like SOX2 which are also involved in developmental pathways. Understanding SMARCA2's role may uncover insights into therapeutic targets for these conditions.

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.

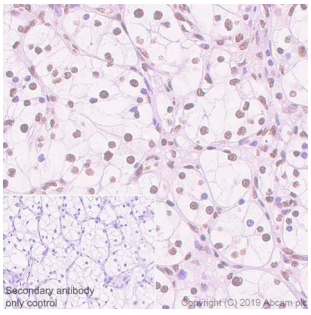
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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8 product images

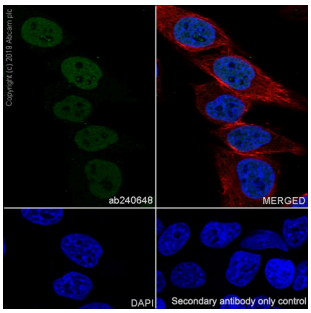


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SMARCA2 / BRM antibody [EPR23103-44] (ab240648)

SMARCA2 / BRM Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SMARCA2 / BRM antibody

Immunohistochemical analysis of paraffin-embedded human renal cell carcinoma tissue labeling SMARCA2/BRM with ab240648 at 1/2000 dilution (0.23 µg/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on human renal cell carcinoma. The section was incubated with ab240648 for 30 mins at room temperature. The immunostaining 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).

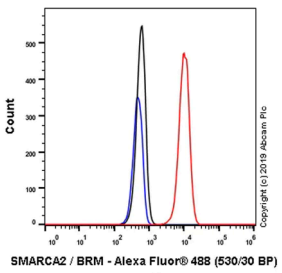
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20mins.



Immunocytochemistry/ Immunofluorescence - Anti-SMARCA2 / BRM antibody [EPR23103-44] (ab240648)

SMARCA2 / BRM Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SMARCA2 / BRM antibody

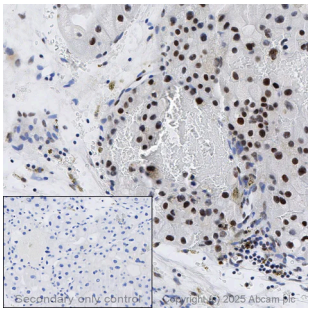
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cells labeling SMARCA2/BRM with ab240648 at 1/50 dilution, followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1/1000 dilution (Green). Confocal image showing strong nuclear and weak cytoplasmic staining in HeLa cells. ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150077 AlexaFluor®488 Goat anti-Rabbit secondary at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-SMARCA2 / BRM antibody [EPR23103-44] (ab240648)

SMARCA2 / BRM Flow Cytometry (Intracellular) staining using rabbit Anti-SMARCA2 / BRM antibody

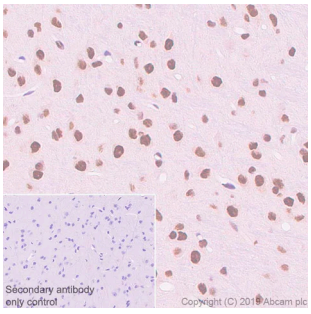
Intracellular flow cytometric analysis of 4% paraformaldehyde fixed, 90% methanol permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cells labeling SMARCA2/BRM with ab240648 at 1/500 dilution (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabeled 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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SMARCA2 / BRM antibody [EPR23103-44] (ab240648)

SMARCA2 / BRM Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human renal cell carcinoma using rabbit Anti-SMARCA2 / BRM antibody

Immunohistochemical analysis of formalin fixed paraffin embedded human renal cell carcinoma labelling SMARCA2/BRM with ab240648 at a concentration of 1µg/ml. The immunostaining was performed on a Ventana DISCOVERY ULTRA (Roche Tissue Diagnostics) instrument with a OptiView DAB IHC Detection Kit. Heat mediated antigen retrieval was performed with DISCOVERY cell conditioning solution (CC1) 100°C, pH8.5 for 32mins. ab240648 Anti-SMARCA2/BRM antibody [EPR23103-44] was incubated for 16mins at 37°C. Sections were counterstained with Hematoxylin II. Image inset shows absence of staining in secondary antibody only control.
Customers are encouraged to optimise antigen retrieval conditions, antibody concentration, incubation times and temperature for best results in their own IHC assay workflow (automated and manual).

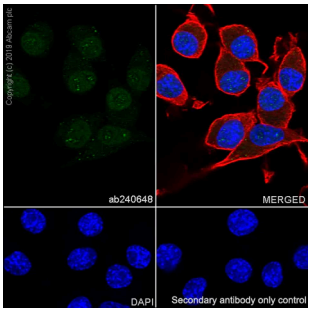


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SMARCA2 / BRM antibody [EPR23103-44] (ab240648)

SMARCA2 / BRM Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SMARCA2 / BRM antibody

Immunohistochemical analysis of paraffin-embedded mouse cerebrum tissue labeling SMARCA2/BRM with ab240648 at 1/2000 dilution (0.23 µg/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on mouse cerebrum. The section was incubated with ab240648 for 30 mins at room temperature. The immunostaining 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).

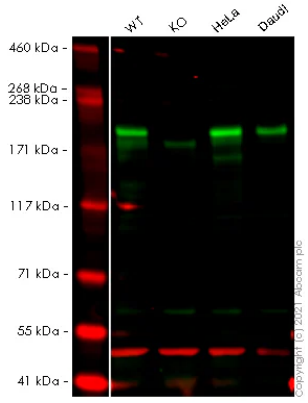
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20mins.



Immunocytochemistry/ Immunofluorescence - Anti-SMARCA2 / BRM antibody [EPR23103-44] (ab240648)

SMARCA2 / BRM Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SMARCA2 / BRM antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized Neuro-2a (mouse neuroblastoma neuroblast) cells labeling SMARCA2/BRM with ab240648 at 1/50 dilution, followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1/1000 dilution (Green). Confocal image showing strong nuclear and weak cytoplasmic staining in Neuro-2a cells. ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150077 AlexaFluor®488 Goat anti-Rabbit secondary at 1/1000 dilution.



Western blot - Anti-SMARCA2 / BRM antibody [EPR23103-44] (ab240648)

SMARCA2 / BRM Western blot staining using rabbit Anti-SMARCA2 / BRM antibody

Lanes 1 - 4: Merged signal (red and green). Green - ab240648 observed at 200 kDa. Red - loading control ab7291 (Mouse anti-Alpha Tubulin [DM1A]) observed at 55 kDa.
ab240648 was shown to react with SMARCA2 / BRM in wild-type HeLa cells in Western blot with loss of signal observed in SMARCA2 knockout cell line ab265416 (SMARCA2 knockout cell lysate ab257687). Wild-type HeLa and SMARCA2 knockout cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3 % milk in TBS-T (0.1 % Tween®) before incubation with ab240648 and ab7291 (Mouse anti-Alpha Tubulin [DM1A]) 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-SMARCA2 / BRM antibody [EPR23103-44] (ab240648) at 1/1000 dilution

Lane 1:
Wild-type HeLa cell lysate at 20 µg

Lane 2:
SMARCA2 knockout HeLa cell lysate at 20 µg

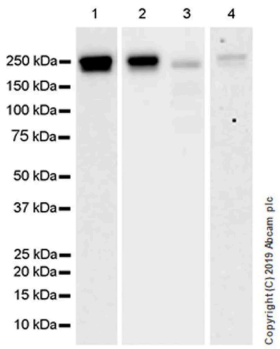
Lane 3:
HeLa cell lysate at 20 µg

Lane 4:
Daudi cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 181 kDa

Observed band size: 200 kDa



Western blot - Anti-SMARCA2 / BRM antibody [EPR23103-44] (ab240648)

SMARCA2 / BRM Western blot staining using rabbit Anti-SMARCA2 / BRM antibody

Blocking and dilution buffer: 5% NFDM/TBST.
Exposure times: Lane 1: 3 minutes; Lanes 2-3: 26 seconds; Lane 4: 3 minutes.

Two isoforms of SMARCA2/BRM are reported in human and mouse species (PMID:21811517).

All lanes:
Western blot - Anti-SMARCA2 / BRM antibody [EPR23103-44] (ab240648) at 1/1000 dilution

Lane 1:
HEK-293T (human embryonic kidney epithelial cell) whole cell lysate at 20 µg

Lane 2:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 3:
MCF7 (human breast adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 4:
Neuro-2a (mouse neuroblastoma neuroblast) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 181 kDa

Observed band size: 200 kDa

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