

Product datasheet

Anti-BRG1 antibody [EPNCIR111A] ab110641

KO VALIDATED Recombinant RabMAB

★★★★★ 9 Abreviews 121 References 15 Images

Overview

Product name	Anti-BRG1 antibody [EPNCIR111A]
Description	Rabbit monoclonal [EPNCIR111A] to BRG1
Host species	Rabbit
Tested applications	Suitable for: Flow Cyt (Intra), WB, IP, IHC-P, ICC/IF
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers. (Peptide available as ab241115)
Positive control	WB: Hap1, HEK-293T, K562, HeLa, MOLT4, NIH3T3, RAW 264.7, C6 and PC12 cell lysates; Human kidney and testis tissue lysates; IHC-P: Human testis, colon, cervical carcinoma and kidney tissue, rat liver tissue and mouse kidney tissue; ICC/IF: HeLa cells, Raji and SMARCA4-HAP1 cells; Flow Cyt (intra): HeLa cells.
General notes	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production <p>For more information see here.</p> <p>Our RabMAB[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAB[®] patents.</p> <p>We are constantly working hard to ensure we provide our customers with best in class antibodies. As a result of this work we are pleased to now offer this antibody in purified format. We are in the process of updating our datasheets. The purified format is designated 'PUR' on our product labels. If you have any questions regarding this update, please contact our Scientific Support team.</p> <p>This antibody was developed as part of a collaboration between Epitomics, the National Cancer Institute's Center for Cancer Research and the lab of Gordon Hager. View antibodies from NCI Center for Cancer Research Collaboration.</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Stable for 12 months at -20°C.
Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.5% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPNCIR111A
Isotype	IgG

Applications

The Abpromise guarantee Our [Abpromise guarantee](#) covers the use of ab110641 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt (Intra)		1/200.
WB	★★★★★ (5)	1/10000 - 1/50000. Predicted molecular weight: 185 kDa. Can be blocked with Human BRG1 peptide (ab241115) .
IP	★★★★★ (1)	1/10 - 1/100.
IHC-P		1/100 - 1/250. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
ICC/IF	★★★★★ (2)	1/500.

Target

Function Transcriptional coactivator cooperating with nuclear hormone receptors to potentiate transcriptional activation. Component of the CREST-BRG1 complex, a multiprotein complex that regulates promoter activation by orchestrating a calcium-dependent release of a repressor complex and a recruitment of an activator complex. In resting neurons, transcription of the c-FOS promoter is inhibited by BRG1-dependent recruitment of a phospho-RB1-HDAC repressor complex. Upon calcium influx, RB1 is dephosphorylated by calcineurin, which leads to release of the repressor complex. At the same time, there is increased recruitment of CREBBP to the promoter by a CREST-dependent mechanism, which leads to transcriptional activation. The CREST-BRG1 complex also binds to the NR2B promoter, and activity-dependent induction of NR2B expression involves a release of HDAC1 and recruitment of CREBBP. 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 post-mitotic 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 post-mitotic 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. SMARCA4/BAF190A may promote neural stem cell self-renewal/proliferation by enhancing Notch-dependent proliferative signals, while concurrently making the neural stem cell insensitive to SHH-dependent differentiating cues (By similarity). Also involved in vitamin D-coupled transcription regulation via its association with the WINAC complex, a chromatin-remodeling complex recruited by vitamin D receptor (VDR), which is required for the ligand-bound VDR-mediated transrepression of the CYP27B1 gene. Acts as a corepressor of ZEB1 to regulate E-cadherin transcription and is required for induction of epithelial-mesenchymal transition (EMT) by ZEB1.

Tissue specificity

Colocalizes with ZEB1 in E-cadherin-negative cells from established lines, and stroma of normal colon as well as in de-differentiated epithelial cells at the invasion front of colorectal carcinomas (at protein level).

Involvement in disease

Defects in SMARCA4 are the cause of rhabdoid tumor predisposition syndrome type 2 (RTPS2) [MIM:613325]. RTPS2 is a familial cancer syndrome predisposing to renal or extrarenal malignant rhabdoid tumors and to a variety of tumors of the central nervous system, including choroid plexus carcinoma, medulloblastoma, and central primitive neuroectodermal tumors. Rhabdoid tumors are the most aggressive and lethal malignancies occurring in early childhood.

Sequence similarities

Belongs to the SNF2/RAD54 helicase family.
 Contains 1 bromo domain.
 Contains 1 helicase ATP-binding domain.
 Contains 1 helicase C-terminal domain.
 Contains 1 HSA domain.

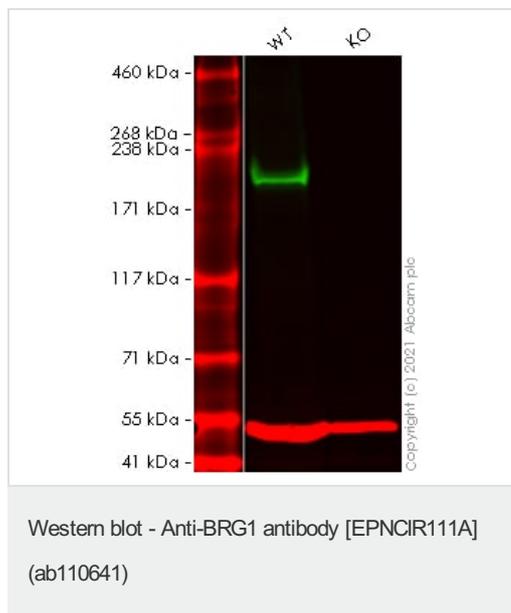
Post-translational modifications

Phosphorylated upon DNA damage, probably by ATM or ATR.

Cellular localization

Nucleus.

Images



All lanes : Anti-BRG1 antibody [EPNCIR111A] (ab110641) at 1/1000 dilution

Lane 1 : Wild-type HEK-293T cell lysate

Lane 2 : SMARCA4 knockout HEK-293T cell lysate

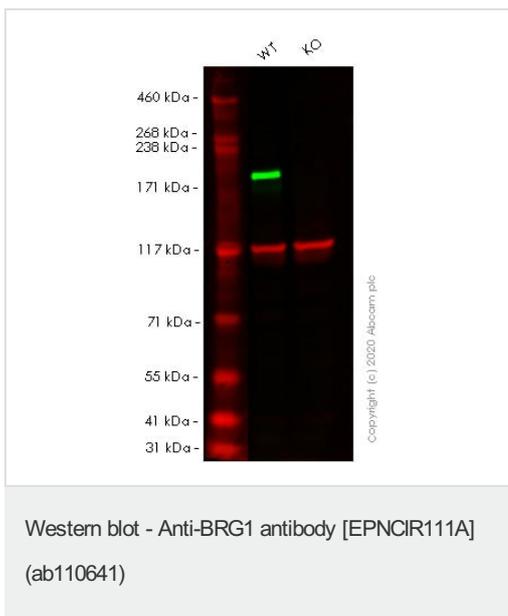
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 185 kDa

Observed band size: 185 kDa

False colour image of Western blot: Anti-BRG1 antibody [EPNCIR111A] staining at 1/1000 dilution, shown in green; Mouse anti-Alpha Tubulin [DM1A] (ab7291) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab110641 was shown to bind specifically to BRG1. A band was observed at 185 kDa in wild-type HEK-293T cell lysates with no signal observed at this size in SMARCA4 knockout cell line ab255432 (knockout cell lysate ab263853). To generate this image, wild-type and SMARCA4 knockout HEK-293T cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % 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 IgG H&L (IRDye[®] 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye[®] 680RD) preabsorbed (ab216776) at 1/20000 dilution.



All lanes : Anti-BRG1 antibody [EPNCIR111A] (ab110641) at 1/10000 dilution

Lane 1 : Wild-type HEK-293T cell lysate

Lane 2 : SMARCA4 knockout HEK-293T cell lysate

Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

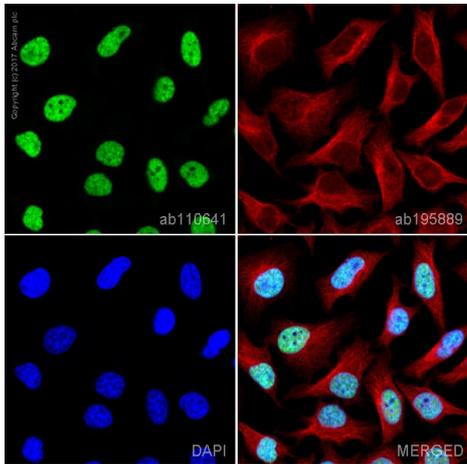
Predicted band size: 185 kDa

Observed band size: 185 kDa

Lanes 1- 2: Merged signal (red and green). Green - ab110641 observed at 185 kDa. Red - Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) observed at 50 kDa.

ab110641 was shown to react with SMARCA4 in wild-type HEK-293T cells in western blot. Loss of signal was observed when knockout cell line ab255432 (knockout cell lysate ab263853) was used. Wild-type HEK-293T and SMARCA4 knockout HEK-293T cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried

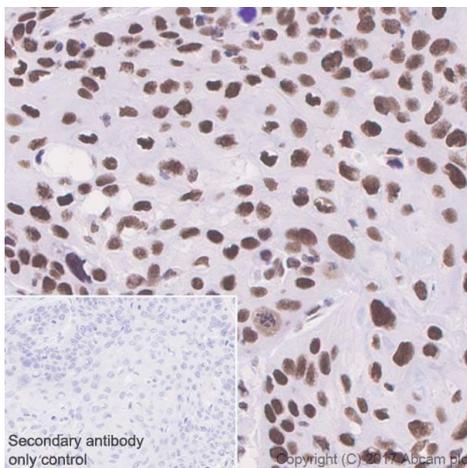
milk. ab110641 and Anti-alpha Tubulin antibody [DM1A] - Loading Control ([ab7291](#)) overnight at 4°C at a 1 in 10000 dilution and a 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye®800CW) preadsorbed ([ab216773](#)) and Goat anti-Mouse IgG H&L (IRDye®680RD) preadsorbed ([ab216776](#)) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.



Immunocytochemistry/ Immunofluorescence - Anti-BRG1 antibody [EPNCIR111A] (ab110641)

ab110641 staining BRG1 in HeLa cells. The cells were fixed with 4% formaldehyde (10min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab110641 at 1/500 dilution and [ab195889](#) (Mouse monoclonal [DM1A] to alpha Tubulin - Microtubule Marker (Alexa Fluor® 594)) at 1/250 dilution overnight at +4°C, followed by a further incubation at room temperature for 1h with [ab150081](#) (Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 488)) at 2 µg/ml (shown in green). Nuclear DNA was labelled in blue with DAPI.

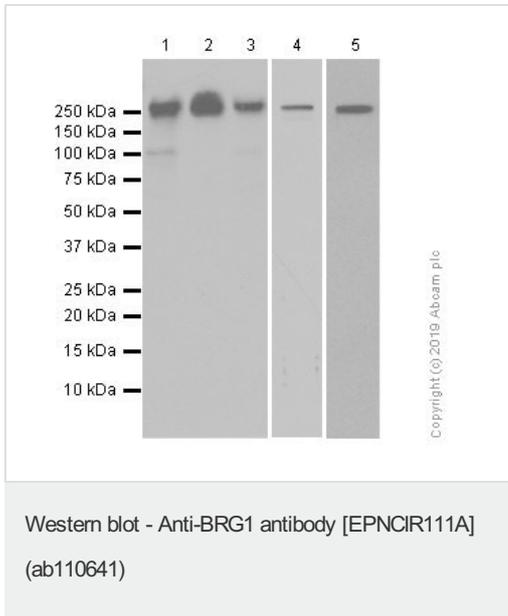
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-BRG1 antibody [EPNCIR111A] (ab110641)

Immunohistochemical analysis of paraffin-embedded Human cervical carcinoma tissue labeling BRG1 with ab110641, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Nuclear staining on human cervical carcinoma. Counterstained with Hematoxylin. Heat mediated antigen retrieval using [ab93684](#) (Tris/EDTA buffer, pH 9.0).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).



All lanes : Anti-BRG1 antibody [EPNCIR111A] (ab110641) at 1/10000 dilution

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

Lane 2 : NIH/3T3 (Mouse embryonic fibroblast) whole cell lysates

Lane 3 : RAW 264.7 (Mouse Abelson murine leukemia virus-induced tumor macrophage) whole cell lysates

Lane 4 : C6 (Rat glial tumor glial cell) whole cell lysates

Lane 5 : K-562 (Human chronic myelogenous leukemia lymphoblast) whole cell lysates

Lysates/proteins at 20 µg per lane.

Secondary

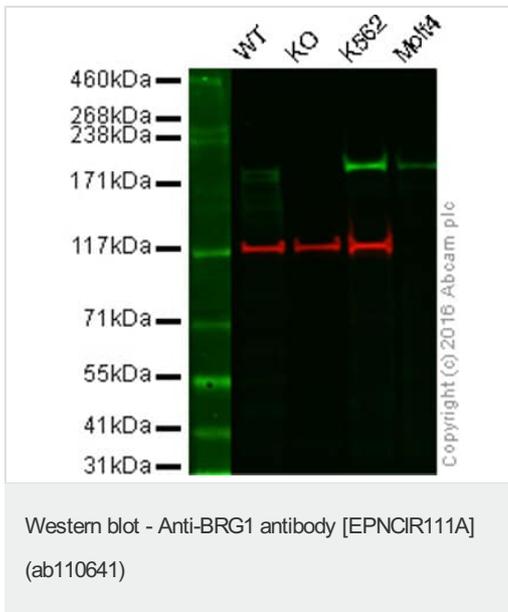
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 185 kDa

Observed band size: 185 kDa

Blocking/Diluting buffer and concentration: 5% NFDM/TBST.

Exposure time: Lane 1 to 4: 5 seconds; Lane 5: 15 seconds



All lanes : Anti-BRG1 antibody [EPNCIR111A] (ab110641) at 1/10000 dilution

Lane 1 : Wild-type HAP1 cell lysate

Lane 2 : BRG1 knockout HAP1 cell lysate

Lane 3 : K562 cell lysate

Lane 4 : Molt-4 cell lysate

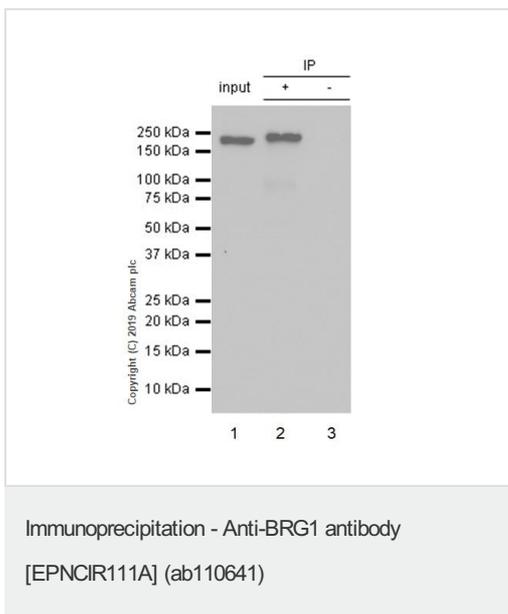
Lysates/proteins at 20 µg per lane.

Predicted band size: 185 kDa

Additional bands at: 185 kDa. We are unsure as to the identity of these extra bands.

Lanes 1 -4: Merged signal (red and green). Green - ab110641 observed at 185 kDa. Red - loading control, [ab18058](#), observed at 124 kDa.

ab110641 was shown to specifically react with BRG1 in wild-type HAP1 cells. No band was observed when BRG1 knockout samples were used. Wild-type and BRG1 knockout samples were subjected to SDS-PAGE, ab110641 and [ab18058](#) (loading control to Vinculin) were both diluted 1/10,000 and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed ([ab216773](#)) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed ([ab216776](#)) secondary antibodies at 1/10,000 dilution for 1hr at room temperature before imaging.



BRG1 was immunoprecipitated from 0.35 mg HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate 10µg with Ab110641 at 1:20 dilution (0.3µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using Ab110641 1:1000 dilution (0.12 µg/ml). VeriBlot for IP Detection Reagent (HRP) ([ab131366](#)) was used as the secondary antibody at 1:1000 dilution.

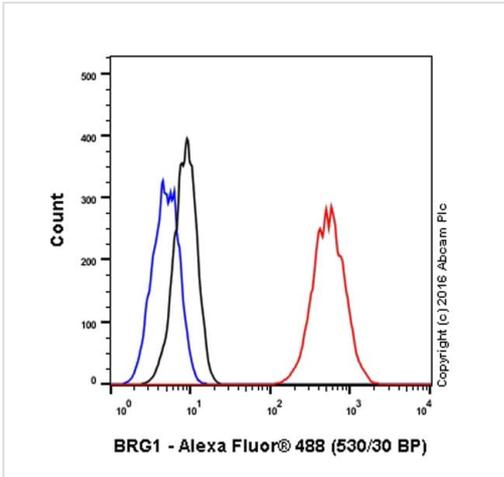
Lane 1: HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate 10µg

Lane 2: Ab110641 IP in HeLa whole cell lysate

Lane 3: Rabbit monoclonal IgG ([ab172730](#)) instead of ab110641 in HeLa whole cell lysate.

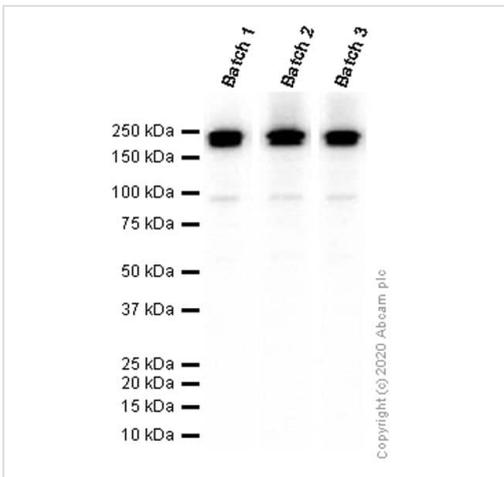
Blocking and dilution buffer and concentration: 5% NFD/MBST.

Exposure time: 1 second



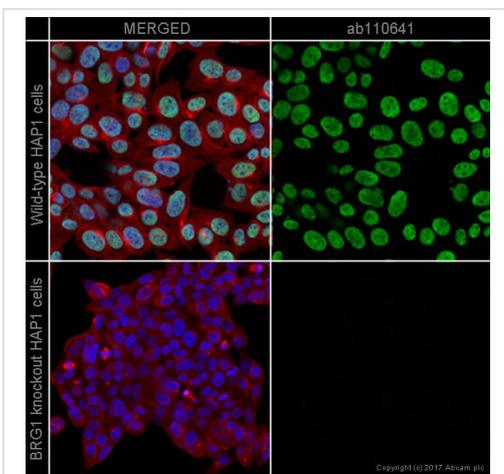
Flow Cytometry (Intracellular) - Anti-BRG1 antibody [EPNCIR111A] (ab110641)

Intracellular Flow Cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling BRG1 with purified ab110641 at 1/200 dilution (10µg/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) were used as the unlabeled control.



Western blot - Anti-BRG1 antibody [EPNCIR111A] (ab110641)

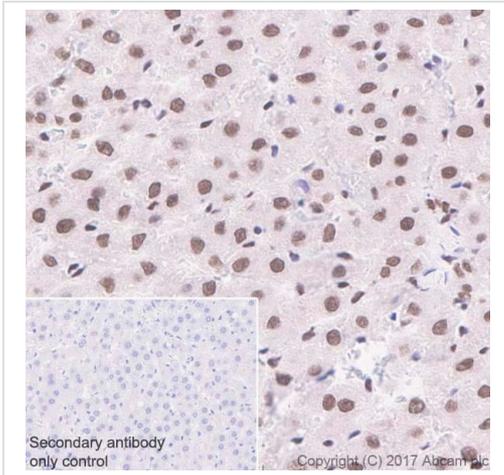
Different batches of ab110641 were tested on HeLa (Human cervix adenocarcinoma epithelial cell) lysate at 0.5 µg/ml. 15 µg of lysate was loaded in each lane. Bands observed at 185 kDa.



Immunocytochemistry/ Immunofluorescence - Anti-BRG1 antibody [EPNCIR111A] (ab110641)

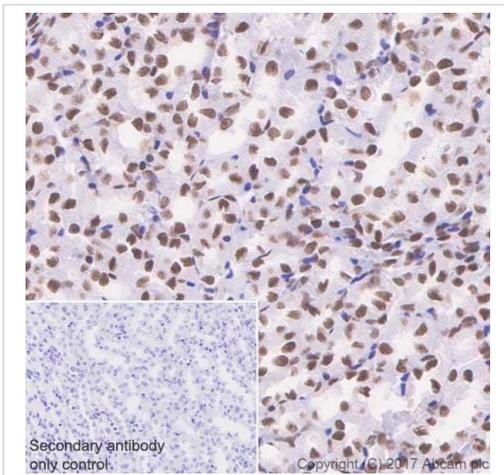
ab110641 staining BRG1 in wild-type HAP1 cells (top panel) and BRG1 knockout HAP1 cells (bottom panel). The cells were fixed with 4% formaldehyde (10min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab110641 at 1/500 dilution and ab195889 at 1/250 dilution (shown in pseudocolour red) overnight at +4°C, followed by a further incubation at room temperature for 1h with a goat secondary antibody to Rabbit IgG (Alexa Fluor® 488) (ab150081) at 2 µg/ml (shown in green). Nuclear DNA was labelled in blue with DAPI.

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Immunohistochemical analysis of paraffin-embedded Rat liver tissue labeling BRG1 with ab110641, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Nuclear staining on rat liver. Counterstained with Hematoxylin. Heat mediated antigen retrieval using [ab93684](#) (Tris/EDTA buffer, pH 9.0). Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

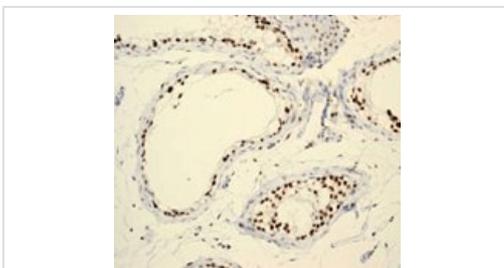
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-BRG1 antibody [EPNCIR111A] (ab110641)



Immunohistochemical analysis of paraffin-embedded Mouse kidney tissue labeling BRG1 with ab110641, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Nuclear staining on mouse kidney. Counterstained with Hematoxylin. Heat mediated antigen retrieval using [ab93684](#) (Tris/EDTA buffer, pH 9.0).

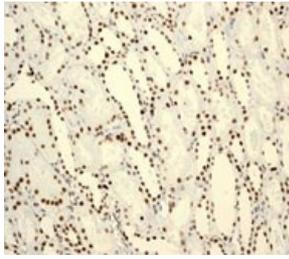
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-BRG1 antibody [EPNCIR111A] (ab110641)



Immunohistochemical analysis of paraffin-embedded human testis tissue staining BRG1 with ab110641 at 1/100 dilution. Heat mediated antigen retrieval was performed with citrate buffer (pH 6).

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-BRG1 antibody [EPNCIR111A] (ab110641)



Immunohistochemical analysis of paraffin-embedded human kidney tissue staining BRG1 with ab110641 at 1/100 dilution. Heat mediated antigen retrieval was performed with citrate buffer (pH 6).

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-BRG1 antibody [EPNCIR111A] (ab110641)

Why choose a recombinant antibody?



Research with confidence
Consistent and reproducible results



Long-term and scalable supply
Recombinant technology



Success from the first experiment
Confirmed specificity



Ethical standards compliant
Animal-free production

Anti-BRG1 antibody [EPNCIR111A] (ab110641)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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