abcam

ab215998

Anti-BRG1 antibody [EPNCIR111A] - BSA and Azide free

Recombinant | RabMAb | Advanced Validation | 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	EPNCIR111A
Purification technique	Affinity purification Protein A
Concentration	1.014 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ChIC/CUT&RUN-seq

Tested

Species	Human
Dilution info	-

Notes	-

Expected

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

IHC-P

Tested

Species	Mouse
Dilution info	-
Notes	Heat up to 98°C, below boiling, and then let cool for 10-20 min.

Species	Rat
Dilution info	-
Notes	Heat up to 98°C, below boiling, and then let cool for 10-20 min.

Species	Human
Dilution info	-
Notes	Heat up to 98°C, below boiling, and then let cool for 10-20 min.

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

WB

Tested

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	-

Target data

See full target information SMARCA4

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 (PubMed:15075294, PubMed:29374058, PubMed:30339381, PubMed:32459350). Component of the CREST-BRG1 complex, a multiprotein complex that regulates promoter activation by orchestrating the calcium-dependent release of a repressor complex and the recruitment of an activator complex. In resting neurons, transcription of the c-FOS promoter is inhibited by SMARCA4-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 the release of HDAC1 and recruitment of CREBBP (By similarity). 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. 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). Acts as a corepressor of ZEB1 to regulate E-cadherin transcription and is required for induction of epithelial-mesenchymal transition (EMT) by ZEB1 (PubMed:20418909). Binds via DLX1 to enhancers located in the intergenic region between DLX5 and DLX6 and this binding is stabilized by the long non-coding RNA (lncRNA) Evf2 (By similarity). Binds to RNA in a promiscuous manner (By similarity). In brown adipose tissue, involved in the regulation of thermogenic genes expression (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

ab215998 is the carrier-free version of ab110641.

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.

Collaborations

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.

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.

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.

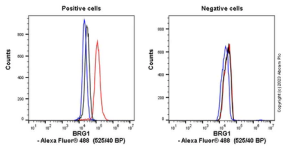
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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13 product images



Flow Cytometry (Intracellular) - Anti-BRG1 antibody [EPNCIR111A] - BSA and Azide free (ab215998)

BRG1 Flow Cytometry (Intracellular) staining using rabbit Anti-BRG1 antibody

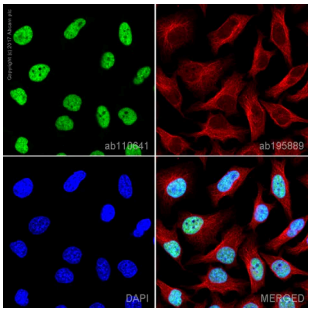
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab110641).

Flow cytometry overlay histogram showing left wild-type Hap1 positive cells and right negative SMARCA4 knockout Hap1 stained with ab95363 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab110641) (1x 106 in 100µl at 0.008 µg/ml (1/266250)) for 30min at 22°C.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min at 22°C

Isotype control antibody Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (black line) was used at the same concentration and conditions as the primary antibody. Unlabelled sample was also used as a control (blue line).

Acquisition of >5000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter.



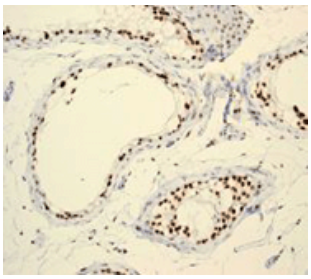
Immunocytochemistry/ Immunofluorescence - Anti-BRG1 antibody [EPNCIR111A] - BSA and Azide free (ab215998)

BRG1 Immunocytochemistry/ Immunofluorescence staining of HeLa cells using rabbit Anti-BRG1 antibody

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).

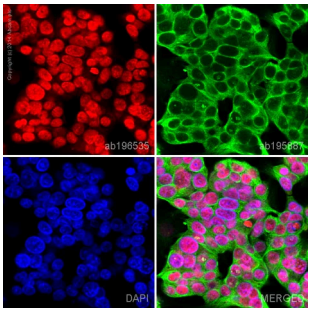
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab110641).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-BRG1 antibody [EPNCIR111A] - BSA and Azide free (ab215998)

BRG1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of human testis tissue using rabbit Anti-BRG1 antibody

This IHC data was generated using the same anti-BRG1 antibody clone, EPNCIR111A, in a different buffer formulation (ab110641).
Immunohistochemical analysis of paraffin-embedded human testis tissue staining BRG1 with ab110641 at 1/100 dilution. Heat mediated antigen retrieval was perfomed with citrate buffer (pH 6).

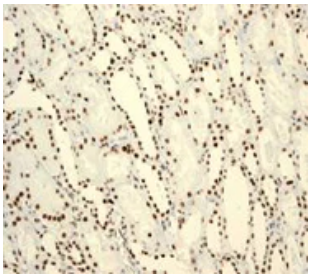


Immunocytochemistry/ Immunofluorescence - Anti-BRG1 antibody [EPNCIR111A] - BSA and Azide free (ab215998)

BRG1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-BRG1 antibody

Clone EPNCIR111A (ab215998) has been successfully conjugated by Abcam. This image was generated using Anti-BRG1 antibody [EPNCIR111A] (Alexa Fluor® 647). Please refer to ab196535 for protocol details.
ab196535 staining BRG1 in SW480 cells. The cells were fixed with 100% methanol (5 min), 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 overnight at +4°C with ab196535 at a 1/100 dilution (shown in red) and ab195887, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 488), at a 1/250 dilution (shown in green). Nuclear DNA was labelled with DAPI (shown in blue).

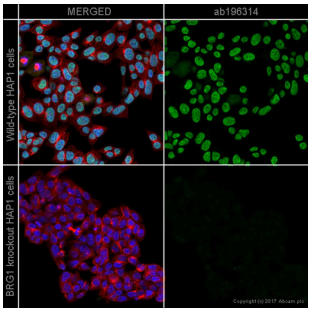
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-BRG1 antibody [EPNCIR111A] - BSA and Azide free (ab215998)

ab110641 at 1/100 dilution staining BRG1 in Human kidney tissue by Immunohistochemistry, Paraffin-embedded tissue.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab110641).

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

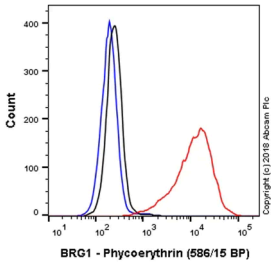


Immunocytochemistry/ Immunofluorescence - Anti-BRG1 antibody [EPNCIR111A] - BSA and Azide free (ab215998)

BRG1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-BRG1 antibody

Clone EPNCIR111A (ab215998) has been successfully conjugated by Abcam. This image was generated using Anti-BRG1 antibody [EPNCIR111A] (Alexa Fluor® 488). Please refer to ab196314 for protocol details.
ab196314 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 overnight at +4°C with ab196314 at a 1/500 dilution (shown in green) and ab195889, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 594), at a 1/250 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).

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



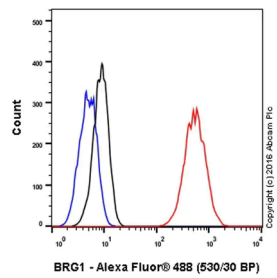
Flow Cytometry (Intracellular) - Anti-BRG1 antibody [EPNCIR111A] - BSA and Azide free (ab215998)

BRG1 Flow Cytometry (Intracellular) staining using rabbit Anti-BRG1 antibody

Clone EPNCIR111A (ab215998) has been successfully conjugated by Abcam. This image was generated using Anti-BRG1 antibody [EPNCIR111A] (PE). Please refer to ab225124 for protocol details.
Overlay histogram showing HeLa cells stained with ab225124 (red line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilized with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab225124, 1/500 dilution) for 30 min at 22°C.

Isotype control antibody (black line) was Rabbit IgG (monoclonal) Phycoerythrin (ab209478) used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

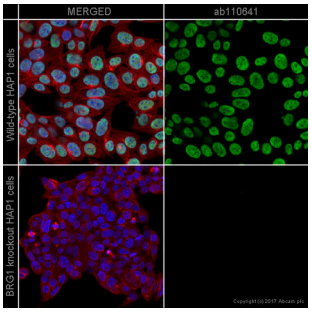
Acquisition of >5,000 events were collected using a 50 mW Yellow/Green laser (561nm) and 586/15 bandpass filter.



Flow Cytometry (Intracellular) - Anti-BRG1 antibody [EPNCIR111A] - BSA and Azide free (ab215998)

BRG1 Flow Cytometry (Intracellular) staining of HeLa (human cervix adenocarcinoma) cells using rabbit Anti-BRG1 antibody

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 Fluorr® 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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab110641).

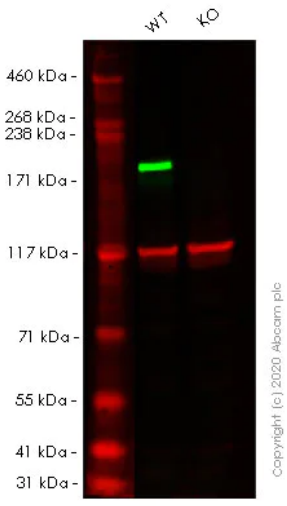


Immunocytochemistry/ Immunofluorescence - Anti-BRG1 antibody [EPNCIR111A] - BSA and Azide free (ab215998)

BRG1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-BRG1 antibody

This ICC/IF data was generated using the same anti-BRG1 antibody clone, EPNCIR111A, in a different buffer formulation (cat# 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).



Western blot - Anti-BRG1 antibody [EPNCIR111A] - BSA and Azide free (ab215998)

BRG1 Western blot staining using rabbit Anti-BRG1 antibody

This data was developed using the same antibody clone in a different buffer formulation (ab110641).
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.

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

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

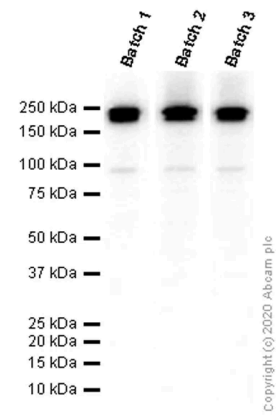
Lane 2:
SMARCA4 knockout HEK-293T cell lysate at 20 µg

Lane 2:
Western blot - Human SMARCA4 (BRG1) knockout HEK-293T cell line (ab255432)

Performed under reducing conditions.

Predicted band size: 185 kDa

Observed band size: 185 kDa

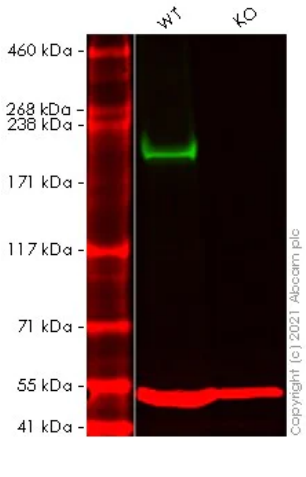


Western blot - Anti-BRG1 antibody [EPNCIR111A] - BSA and Azide free (ab215998)

BRG1 Western blot staining using rabbit Anti-BRG1 antibody

This data was developed using ab110641, the same antibody clone in a different buffer formulation. 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.
All lanes:
Western blot - Anti-BRG1 antibody [EPNCIR111A] (ab110641)

Predicted band size: 185 kDa



Western blot - Anti-BRG1 antibody [EPNCIR111A] - BSA and Azide free (ab215998)

BRG1 Western blot staining using rabbit Anti-BRG1 antibody

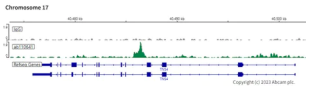
False colour image of Western blot: Anti-BRG1 antibody [EPNCIR111A] staining at 1/1000 dilution, shown in green; Mouse anti-Alpha Tubulin [DM1A] (ab7291) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab110641 was shown to bind specifically to BRG1. A band was observed at 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.
Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
SMARCA4 knockout HEK-293T cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 185 kDa

Observed band size: 185 kDa



ChIC/CUT&RUN sequencing - Anti-BRG1 antibody [EPNCIR111A] - BSA and Azide free (ab215998)

ChIC/CUT&RUN was performed using a pAG-MNAse at a final concentration of 700 ng/mL, 2.5 x 10^5 HeLa (Human cervix adenocarcinoma epithelial cell line) cells and 5µg of ab110641 [EPNCIR111A]. The resulting DNA was sequenced on the Illumina NovaSeq 6000 to a depth of 10 million reads. The negative IgG control ab172730 is also shown. Additional screenshots of mapped reads can be found in the Protocol booklet in the Product Protocol section. The University of Geneva owns patents relevant to ChIC (Chromatin Immuno-Cleavage) methods. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab110641).

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