abcam

ab282705

Anti-BRG1 antibody [G-SMARCA4-2] - Mouse IgG2a (Chimeric)

Recombinant | KO Validated | 20ul selling size

Key facts

Isotype	IgG2a
Host species	Mouse
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	G-SMARCA4-2
Purification technique	Affinity purification Protein A
Concentration	1.001 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human, Rat, Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Not recommended

Species	Human, Rat, Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/100
Notes	-

Species	Human
Dilution info	1/100
Notes	-

Expected

Species	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 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

ab282705 is a mouse monoclonal chimeric antibody.
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.

Collaborations
This antibody was developed by the Structural Genomics Consortium and manufactured by Abcam.

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

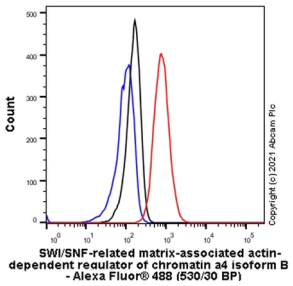
We do not recommend this combination. It is not covered by our product promise.

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.

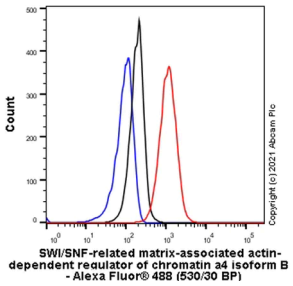
4 product images



Flow Cytometry (Intracellular) - Anti-BRG1 antibody [G-SMARCA4-2] - Mouse IgG2a (Chimeric) (ab282705)

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

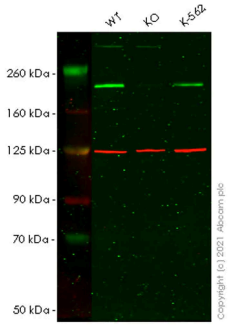
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized K-562 (human chronic myelogenous leukemia lymphoblast) cells labelling BRG1 with ab282705 at 1/100 dilution (1 µg) (Red) compared with a mouse monoclonal IgG (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti mouse IgG (Alexa Fluor® 488, ab150113) at 1/2000 dilution was used as the secondary antibody.



Flow Cytometry (Intracellular) - Anti-BRG1 antibody [G-SMARCA4-2] - Mouse IgG2a (Chimeric) (ab282705)

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

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized NIH/3T3 (mouse embryonic fibroblast) cells labelling BRG1 with ab282705 at 1/100 dilution (1 µg) (Red) compared with a Mouse monoclonal IgG (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti mouse IgG (Alexa Fluor® 488, ab150113) at 1/2000 dilution was used as the secondary antibody.



Western blot - Anti-BRG1 antibody [G-SMARCA4-2] - Mouse IgG2a (Chimeric) (ab282705)

BRG1 Western blot staining using mouse Anti-BRG1 antibody

Blocking and diluting buffer and concentration: 3% NFDM/TBST
Lanes 1-3: Merged signal (red and green). Green - ab282705 observed at 185 kDa. Red - loading control ab129002 observed at 124 kDa.

Lanes 1-2: ab282705 Anti-BRG1 antibody was shown to react with BRG1 in HAP1 cells in Western blot. Loss of signal was observed when BRG1 knockout sample was used. Wild-type and BRG1 knockout samples were subjected to SDS-PAGE.

ab282705 and Anti-Vinculin antibody [EPR8185] (ab129002) were incubated at 4°C overnight at 1/1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 680CW) preadsorbed (ab216777) and Goat anti-Mouse IgG H&L (IRDye® 800RD) preadsorbed (ab216772) secondary antibodies at 1/10000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-BRG1 antibody [G-SMARCA4-2] - Mouse IgG2a (Chimeric) (ab282705) at 1/1000 dilution

Lane 1:
Wild type HAP1(human chronic myelogenous leukemia near-haploid cell line), whole cell lysate at 20 µg

Lane 2:
BRG1 knockout HAP1(human chronic myelogenous leukemia near-haploid cell line), whole cell lysate at 20 µg

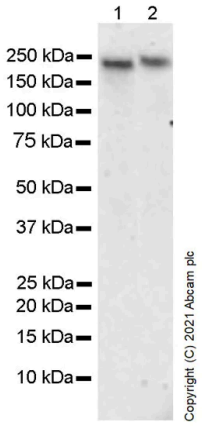
Lane 3:
K-562 (human chronic myelogenous leukemia lymphoblast), whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Mouse IgG H&L (IRDye® 800CW) (ab216772) and Goat Anti-Rabbit IgG H&L (IRDye® 680RD) (ab216777) at 1/10000 dilution

Predicted band size: 185 kDa

Observed band size: 185 kDa



Western blot - Anti-BRG1 antibody [G-SMARCA4-2] - Mouse IgG2a (Chimeric) (ab282705)

BRG1 Western blot staining using mouse Anti-BRG1 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
Exposure time: 3 minutes

All lanes:
Western blot - Anti-BRG1 antibody [G-SMARCA4-2] - Mouse IgG2a (Chimeric) (ab282705) at 1/1000 dilution

Lane 1:
RAW264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage), whole cell lysate at 20 µg

Lane 2:
PC-12 (rat adrenal gland pheochromocytoma), whole cell lysate at 20 µg

Secondary

All lanes:
Peroxidase-Conjugated Goat anti-Mouse IgG (H+L) at 1/10000 dilution

Predicted band size: 185 kDa

Observed band size: 185 kDa

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