

Mouse anti-Human, Mouse BRG1 Monoclonal Antibody | anti-SMARCA4 antibody

BRG1 Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA290517	Mouse	Human, Mouse	Immunoprecipitation, Immunocytochemistry, Western Blot

PRODUCT SYNONYMS

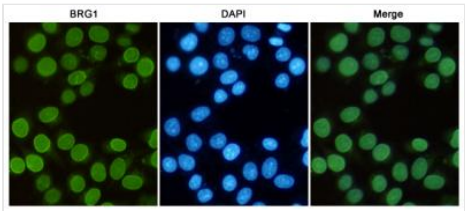
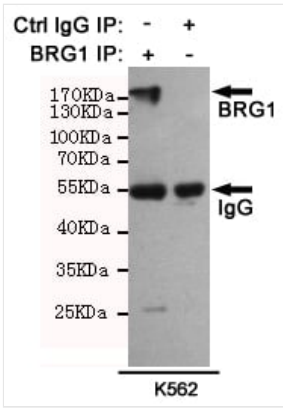
BRG1; Monoclonal Antibody; BRG1 Antibody; Purified Mouse Monoclonal Antibody (Mab); ATP dependent helicase SMARCA4; ATP-dependent helicase SMARCA4; BAF 190; BAF190; BAF190A; Brahma protein homolog 1; Brahma protein like 1; BRG1 associated factor 190A; BRG1 protein; BRG1-associated factor 190A; BRM/SWI2 related gene 1; Global transcription activator homologous sequence; global transcription activator snf2l4; Homeotic gene regulator; hSNF2b; Mitotic growth and transcription activator; MRD16; Nuclear protein GRB1; Protein brahma homolog 1; Protein BRG-1; Protein BRG1; RTPS2; SMARC A4; SMARCA4; SMCA4_HUMAN; SNF2; SNF2 beta; SNF2 like 4; SNF2-beta; SNF2B; SNF2L4; SNF2LB; Sucrose nonfermenting like 4; SWI/SNF related matrix associated actin dependent regulator of chromatin subfamily A member 4; SWI/SNF related; matrix associated; actin dependent regulator of chromatin; subfamily a; member 4; SWI/SNF-related matrix-associated actin-dependent regulator of chromatin subfamily A member 4; SWI2; Transcription activator BRG1; anti-SMARCA4 antibody

PRODUCT SPECIFICATIONS

Host	Mouse
Reactivity	Human, Mouse
Clonality	Monoclonal
Isotype	IgG1
Form/Format	Purified mouse monoclonal antibody in PBS(pH 7.4) containing with 0.02% sodium azide and 50% glycerol.
Sequence Length	1647
Applicable Applications for anti-SMARCA4 antibody	IP (Immunoprecipitation), ICC (Immunocytochemistry), WB (Western Blot)
Calculated MW	220 kDa

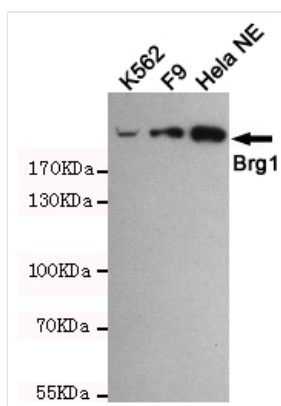
Function	Involved in transcriptional activation and repression of select genes by chromatin remodeling (alteration of DNA-nucleosome topology). Component of SWI/SNF chromatin remodeling complexes that carry out key enzymatic activities, changing chromatin structure by altering DNA-histone contacts within a nucleosome in an ATP-dependent manner. 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. 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. 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). Binding to RNAs including lncRNA Evf2 leads to inhibition of SMARCA4 ATPase and chromatin remodeling activities (By similarity).
Cellular location	Nucleus {ECO:0000255 PROSITE- ProRule:PRU00549, ECO:0000269 PubMed:20418909}. Note=Colocalizes with long non-coding RNA Evf2 in nuclear RNA clouds {ECO:0000250 UniProtKB:Q3TKT4}
Tissue location	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)
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 6 months. For long term storage store at -20 degree C in small aliquots to prevent freeze-thaw cycles.

IMAGES



ICC (Immunocytochemistry)
Immunofluorescent analysis of HeLa cells fixed with 4% Paraformaldehyde and using anti-BRG1 mouse mAb (dilution 1:50). DAPI was used to stain nucleus(blue).

IP (Immunoprecipitation)
Immunoprecipitation analysis of K562 cell lysates using BRG1 mouse mAb (201025).



WB (Western Blot)

Western blot detection of BRG1 in HeLa NE,F9 and K562 cell lysates using BRG1 mouse mAb (1:1000 diluted).Predicted band size:220KDa.Observed band size:220KDa.

ADDITIONAL INFORMATION

Related Product Information for anti-SMARCA4 antibody

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.

Product Categories/Family for anti-SMARCA4 antibody

[Cancer](#); [Neuroscience](#); [Stem cells](#)

References

Khavari P.A.,et al.Nature 366:170-174(1993). Khavari P.A.,et al.Submitted (JUN-1995) to the EMBL/GenBank/DBJ databases. Chiba H.,et al.Nucleic Acids Res. 22:1815-1820(1994). Wong A.K.C.,et al.Cancer Res. 60:6171-6177(2000). Medina P.P.,et al.Hum. Mutat. 29:617-622(2008).

NCBI AND UNIPROT INFORMATION

NCBI GI #	192807312
NCBI GeneID	6597
NCBI Accession #	NP_001122316.1
NCBI GenBank Nucleotide #	NM_001128844.1
UniProt Accession #	P51532; O95052; Q9HBD3; B1A8Z4; B1A8Z5; B1A8Z6; B1A8Z7; E9PBR8

Molecular Weight	220 KDa
NCBI Official Full Name	transcription activator BRG1 isoform B
NCBI Official Synonym Full Names	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 4
NCBI Official Symbol	SMARCA4
NCBI Official Synonym Symbols	BRG1; SNF2; SWI2; MRD16; RTPS2; BAF190; SNF2L4; SNF2LB; hSNF2b; BAF190A
NCBI Protein Information	transcription activator BRG1
UniProt Protein Name	Transcription activator BRG1
UniProt Gene Name	SMARCA4
UniProt Synonym Gene Names	BAF190A; BRG1; SNF2B; SNF2L4; BAF190A
UniProt Entry Name	SMCA4_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
Online datasheet: <https://stage.aaabiotech.com/monoclonal/brg1-antibody-immunoprecipitation-immunocytochemistry-western-blot-elisa/290517>