ARG54166
anti-BRG1 antibody

Package: 100 µl
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody recognizes BRG1.
Tested Reactivity	Hu, Ms
Tested Application	ICC/IF, IP, WB
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Target Name	BRG1
Species	Human
Immunogen	Purified recombinant human BRG1 protein fragments expressed in E.coli.
Conjugation	Un-conjugated
Alternate Names	BRG1-associated factor 190A; SNF2-beta; RTPS2; SNF2L4; SWI/SNF-related matrix-associated actin-dependent regulator of chromatin subfamily A member 4; Transcription activator BRG1; BAF190A; EC 3.6.4.-; Protein BRG-1; SNF2LB; ATP-dependent helicase SMARCA4; MRD16; BAF190; Mitotic growth and transcription activator; BRG1; Protein brahma homolog 1; SNF2; hSNF2b; SWI2

Application Instructions

Application table

Application	Dilution
ICC/IF	1:50
IP	Assay-dependent
WB	1:1000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Observed Size: 220 kDa

Properties

Form	Liquid
Purification	Affinity purified
Buffer	PBS (pH 7.4), 0.02% Sodium azide and 50% Glycerol
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Concentration	1.4 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw

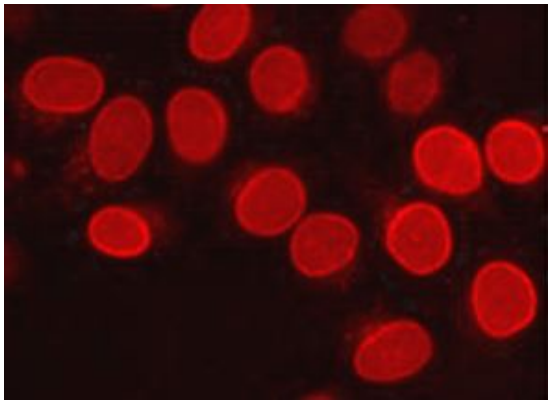
	cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Database links	GeneID: 20586 Mouse GeneID: 6597 Human Swiss-port # P51532 Human Swiss-port # Q3TKT4 Mouse
Gene Symbol	SMARCA4
Gene Full Name	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 4
Background	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.
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). Acts as a

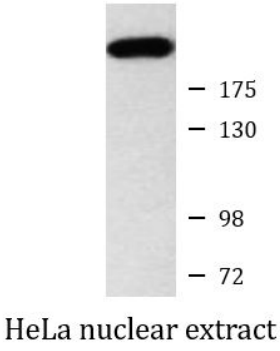
	corepressor of ZEB1 to regulate E-cadherin transcription and is required for induction of epithelial-mesenchymal transition (EMT) by ZEB1. [UniProt]
Research Area	Cancer antibody; Developmental Biology antibody; Gene Regulation antibody; Neuroscience antibody; Signaling Transduction antibody
Calculated Mw	185 kDa
Cellular Localization	Nucleus

Images



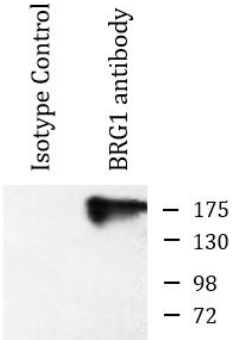
ARG54166 anti-BRG1 antibody ICC/IF image

Immunofluorescence: HeLa cells fixed with 4% Paraformaldehyde and stained with ARG54166 anti-BRG1 antibody at 1:50 dilution.



ARG54166 anti-BRG1 antibody WB image

Western blot: HeLa nuclear extract stained with ARG54166 anti-BRG1 antibody at 1:1000 dilution.



ARG54166 anti-BRG1 antibody IP image

Immunoprecipitation: K562 cell lysates were immunoprecipitated and stained with ARG54166 anti-BRG1 antibody.