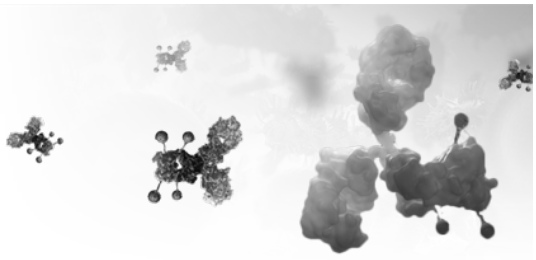

Anti-SMARCA4 (aa 2-14) polyclonal antibody (DPABH-09735)

This product is for research use only and is not intended for diagnostic use.

PRODUCT INFORMATION

Antigen Description

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.

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Immunogen	Synthetic peptide: STPDPPLGGTPRP-C, corresponding to amino acids 2-14 of Human BRG1 (NP_003063.2)
Isotype	IgG
Source/Host	Goat
Species Reactivity	Human
Purification	Immunogen affinity purified
Conjugate	Unconjugated
Applications	IHC-P
Format	Liquid
Size	50 µg
Buffer	pH: 7.30; Constituents: 0.5% BSA, 99% Tris buffered saline
Preservative	0.02% Sodium Azide
Storage	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.

GENE INFORMATION

Gene Name	SMARCA4 SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 5 [Homo sapiens]
Official Symbol	SMARCA4
Synonyms	SMARCA4; SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 4; BRG1; SNF2; SWI2; MRD16; RTPS2; BAF190; SNF2L4; SNF2LB; hSNF2b; BAF190A; transcription activator BRG1; SNF2-beta; SNF2-like 4; protein BRG-1; nuclear protein GRB1; brahma protein-like 1; BRM/SWI2-related gene 1; homeotic gene regulator; protein brahma homolog 1; BRG1-associated factor 190A; sucrose nonfermenting-like 4; ATP-dependent helicase SMARCA4; mitotic growth and transcription activator; global transcription activator homologous sequence;
Entrez Gene ID	6597
Protein Refseq	NP_001122316.1
UniProt ID	A7E2E1

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Pathway	Direct p53 effectors; Integrated Breast Cancer Pathway; Regulation of Wnt-mediated beta catenin signaling and target gene transcription; Signal Transduction
Function	ATP binding; DNA-dependent ATPase activity; contributes_to RNA polymerase II core promoter proximal region sequence-specific DNA binding; contributes_to RNA polymerase II distal enhancer sequence-specific DNA binding

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