

Product datasheet for **KN316287RB**

Smarchb1 Mouse Gene Knockout Kit (CRISPR)

Product data:

Product Type:	Knockout Kits (CRISPR)
Format:	2 gRNA vectors, 1 RFP-BSD donor, 1 scramble control
Donor DNA:	RFP-BSD
Symbol:	Smarchb1
Locus ID:	20587
Components:	KN316287G1 , Smarchb1 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002) KN316287G2 , Smarchb1 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002) KN316287RBD , donor DNA containing left and right homologous arms and RFP-BSD functional cassette. GE100003 , scramble sequence in pCas-Guide vector
RefSeq:	NM_001161853 , NM_011418
UniProt ID:	Q9Z0H3
Synonyms:	AU020204; Baf47; Ini1; Snf5; SNF5/INI1



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Summary:

Core component of the BAF (SWI/SNF) complex. This ATP-dependent chromatin-remodeling complex plays important roles in cell proliferation and differentiation, in cellular antiviral activities and inhibition of tumor formation. The BAF complex is able to create a stable, altered form of chromatin that constrains fewer negative supercoils than normal. This change in supercoiling would be due to the conversion of up to one-half of the nucleosomes on polynucleosomal arrays into asymmetric structures, termed altosomes, each composed of 2 histones octamers. Stimulates in vitro the remodeling activity of SMARCA4/BRG1/BAF190A. Plays a key role in cell-cycle control and causes cell cycle arrest in G0/G1. 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.[UniProtKB/Swiss-Prot Function]

Product images:
