

Product datasheet

Recombinant Human SNF5/SMARCB1 protein ab127275

Description

Product name	Recombinant Human SNF5/SMARCB1 protein
Expression system	Escherichia coli
Accession	Q12824
Protein length	Protein fragment
Animal free	No
Nature	Recombinant
Species	Human
Predicted molecular weight	27 kDa
Amino acids	141 to 376
Tags	His-DHFR tag N-Terminus

Specifications

Our [Abpromise guarantee](#) covers the use of **ab127275** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	SDS-PAGE
Form	Lyophilized
Additional notes	This product was previously labelled as SNF5

Preparation and Storage

Stability and Storage	Shipped at 4°C. Store at -20°C. Constituents: 0.32% Tris HCl, 0.58% Sodium chloride
Reconstitution	Reconstitute with water to desired concentration.

General Info

Function	Core component of the BAF (hSWI/SNF) complex. This ATP-dependent chromatin-remodeling
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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. Involved in activation of CSF1 promoter. 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 (By similarity). Plays a key role in cell-cycle control and causes cell cycle arrest in G0/G1. 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.

Involvement in disease

Defects in SMARCB1 are a cause of rhabdoid tumor (RDT) [MIM:609322]; also known as malignant rhabdoid tumor (MRT). RDT are a highly malignant group of neoplasms that usually occur in early childhood. SMARCB1/INI1 is also frequently inactivated in epithelioid sarcomas. Defects in SMARCB1 are a cause of schwannomatosis (SCHWA) [MIM:162091]; also called congenital cutaneous neurilemmomatosis. Schwannomas are benign tumors of the peripheral nerve sheath that usually occur singly in otherwise normal individuals. Multiple schwannomas in the same individual suggest an underlying tumor-predisposition syndrome. The most common such syndrome is NF2. The hallmark of NF2 is the development of bilateral vestibular-nerve schwannomas; but two-thirds or more of all NF2-affected individuals develop schwannomas in other locations, and dermal schwannomas may precede vestibular tumors in NF2-affected children. There have been several reports of individuals with multiple schwannomas who do not show evidence of vestibular schwannoma. Clinical report suggests that schwannomatosis is a clinical entity distinct from other forms of neurofibromatosis.

Sequence similarities

Belongs to the SNF5 family.

Post-translational modifications

Phosphorylated upon DNA damage, probably by ATM or ATR.

Cellular localization

Nucleus.

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