Datasheet for ABIN3095552

SMARCA4 Protein (AA 1-1647) (Strep Tag)

1 Image

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Overview

Quantity:	1 mg
Target:	SMARCA4
Protein Characteristics:	AA 1-1647
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This SMARCA4 protein is labelled with Strep Tag.
Application:	SDS-PAGE (SDS), ELISA, Western Blotting (WB)

Product Details

Sequence:	MSTPDPPLGG TPRPGPSPGP GPSPGAMLGP SPGPSPGSAH SMMGPSPGPP SAGHPIPTQG PGGYPQDNMH QMHKPMESMH EKGMSDDPRY NQMKGMGMRS GGHAGMGPPP SPMDQHSQGY PSPLGGSEHA SSPVPASGPS SGPQMSSGPG GAPLDGADPQ ALGQQNRGPT PFNQNQLHQL RAQIMAYKML ARGQPLPDHL QMAVQGKRPM PGMQQQMPTL PPPSVSATGP GPGPGPGPGP GPGPAPPNYS RPHGMGGPNM PPPGPSGVPP GMPGQPPGGP PKPWPEGPMA NAAAPTSTPQ KLIPPQPTGR PSPAPPAVPP AASPVMPPQT QSPGQPAQPA PMVPLHQKQS RITPIQKPRG LDPVEILQER EYRLQARIAH RIQELENLPG SLAGDLRTKA TIELKALRLL NFQRQLRQEV VVCMRRDTAL ETALNAKAYK RSKRQSLREA RITEKLEKQQ KIEQERKRRQ KHQEYLNSIL QHAKDFKEYH RSVTGKIQKL TKAVATYHAN TEREQKKENE RIEKERMRRL MAEDEEGYRK LIDQKKDKRL AYLLQQTDEY VANLTELVRQ HKAAQVAKEK KKKKKKKKAE NAEGQTPAIG PDGEPLDETS QMSDLPVKVI HVESGKILTG TDAPKAGQLE AWLEMNPGYE VAPRSDSEES GSEEEEEEEE EEQPQAAQPP TLPVEEKKKI PDPDSDDVSE VDARHIIENA

KQDVDDEYGV SQALARGLQS YYAVAHAVTE RVDKQSALMV NGVLKQYQIK GLEWLVSLYN NNLNGILADE MGLGKTIQTI ALITYLMEHK RINGPFLIIV PLSTLSNWAY EFDKWAPSVV KVSYKGSPAA RRAFVPQLRS GKFNVLLTTY EYIIKDKHIL AKIRWKYMIV DEGHRMKNHH CKLTQVLNTH YVAPRRLLLT GTPLQNKLPE LWALLNFLLP TIFKSCSTFE QWFNAPFAMT GEKVDLNEEE TILIIRRLHK VLRPFLLRRL KKEVEAQLPE KVEYVIKCDM SALQRVLYRH MQAKGVLLTD GSEKDKKGKG GTKTLMNTIM QLRKICNHPY MFQHIEESFS EHLGFTGGIV QGLDLYRASG KFELLDRILP KLRATNHKVL LFCQMTSLMT IMEDYFAYRG FKYLRLDGTT KAEDRGMLLK TFNEPGSEYF IFLLSTRAGG LGLNLQSADT VIIFDSDWNP HQDLQAQDRA HRIGQQNEVR VLRLCTVNSV EEKILAAAKY KLNVDQKVIQ AGMFDQKSSS HERRAFLQAI LEHEEQDESR HCSTGSGSAS FAHTAPPPAG VNPDLEEPPL KEEDEVPDDE TVNQMIARHE EEFDLFMRMD LDRRREEARN PKRKPRLMEE DELPSWIIKD DAEVERLTCE EEEEKMFGRG SRHRKEVDYS DSLTEKQWLK AIEEGTLEEI EEEVRQKKSS RKRKRDSDAG SSTPTTSTRS RDKDDESKKQ KKRGRPPAEK LSPNPPNLTK KMKKIVDAVI KYKDSSSGRQ LSEVFIQLPS RKELPEYYEL IRKPVDFKKI KERIRNHKYR SLNDLEKDVM LLCQNAQTFN LEGSLIYEDS IVLQSVFTSV RQKIEKEDDS EGEESEEEEE GEEEGSESES RSVKVKIKLG RKEKAQDRLK GGRRRPSRGS RAKPVVSDDD SEEEQEEDRS GSGSEED

Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.

Characteristics:

Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to

Product Details

produce even the most difficult-to-express proteins, including those that require post-translational modifications.

- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Concentration:

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.
- The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:	Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®): 1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. Eluate fractions are analyzed by SDS-PAGE. 2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.
Purity:	>80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Endotoxin Level:	Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)
Grade:	Crystallography grade

Target Details

Target:	SMARCA4
Alternative Name:	SMARCA4 (SMARCA4 Products)
Background:	Transcription activator BRG1 (EC 3.6.4.-) (ATP-dependent helicase SMARCA4) (BRG1-associated factor 190A) (BAF190A) (Mitotic growth and transcription activator) (Protein BRG-1) (Protein brahma homolog 1) (SNF2-beta) (SWI/SNF-related matrix-associated actin-dependent regulator of chromatin subfamily A member 4),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). In brown adipose tissue, involved in the regulation of thermogenic genes expression (By similarity). {ECO:0000250|UniProtKB:Q3TKT4, ECO:0000269|PubMed:19571879, ECO:0000269|PubMed:20418909, ECO:0000269|PubMed:29374058, ECO:0000303|PubMed:22952240, ECO:0000303|PubMed:26601204}.
Molecular Weight:	184.6 kDa

Target Details

UniProt:	P51532
Pathways:	Intracellular Steroid Hormone Receptor Signaling Pathway, Regulation of Intracellular Steroid Hormone Receptor Signaling, Stem Cell Maintenance

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Comment:	ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications. During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)

Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process