

Datasheet for ABIN3084679

NPAS4 Protein (AA 1-802) (Strep Tag)



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1 Image

Overview

Quantity:	1 mg
Target:	NPAS4
Protein Characteristics:	AA 1-802
Origin:	Human
Source:	Tobacco (<i>Nicotiana tabacum</i>)
Protein Type:	Recombinant
Purification tag / Conjugate:	This NPAS4 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence: MYRSTKGASK ARRDQINAEI RNLKELLPLA EADKVRLSYL HIMSLACIYT RKGVFFAGGT
PLAGPTGLLS AQELEDIVAA LPGFLLVFTA EGKLLYLSSES VSEHLGHSMV DLVAQGDSIY
DIIDPADHLT VRQQLTLP SA LDTDRLFR CR FNTSKSLRRQ SAGNKLVLIR GRFHAHPPGA
YWAGNPVF TA FCAPLEPRPR PGPGPGPGA SLFLAMFQSR HAKDLALLDI SESVLIYLG F
ERSELLCKSW YGLLHPEDA HASAQHYRLL AESGDIQAEM VVRLQAKTGG WAWIYCLLYS
EGPEGPITAN NYPISDMEAW SLRQQLNSED TQAAYVLGTP TMLPSFPENI LSQECSSTN
PLFTAALGAP RSTSFPSAPE LSVVSASEEL PRPSKELDFS YLTFPSGPEP SLQAELSKDL
VCTPPYTPHQ PGGCAFLFSL HEPFQTHLPT PSSTLQEQLT PSTATFSDQL TPSSATFPDP
LTSPLQGQLT ETSVRSYEDQ LTPCTSTFPD QLLPSTATFP EPLGSPAHEQ LTPPSTAFQA
HLDSPSQTFP EQLSPNPTKT YFAQEGCSFL YEKLPPSPSS PGNGDCTLLA LAQLRGPLSV
DVPLVPEGLL TPEASPVKQS FFHYSEKEQN EIDRLIQQIS QLAQGMDRPF SAEAGTGGLE
PLGGLEPLDS NLSLSGAGPP VLSLDLKPWK CQELDFLADP DNMFLLETPV EDIFMDLSTP

DPSEEWGSGD PEAEGPGGAP SPCNNLSPED HSFLEDLATY ETAFETGVSA FPYDGFDEL
HQLQSQVQDS FHEDGSGGEP TF

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 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.

Product Details

Purification:	Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®): <ol style="list-style-type: none">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:	NPAS4
Alternative Name:	NPAS4 (NPAS4 Products)
Background:	<p>Neuronal PAS domain-containing protein 4 (Neuronal PAS4) (Class E basic helix-loop-helix protein 79) (bHLHe79) (HLH-PAS transcription factor NXF) (PAS domain-containing protein 10),FUNCTION: Transcription factor expressed in neurons of the brain that regulates the excitatory-inhibitory balance within neural circuits and is required for contextual memory in the hippocampus (By similarity). Plays a key role in the structural and functional plasticity of neurons (By similarity). Acts as an early-response transcription factor in both excitatory and inhibitory neurons, where it induces distinct but overlapping sets of late-response genes in these two types of neurons, allowing the synapses that form on inhibitory and excitatory neurons to be modified by neuronal activity in a manner specific to their function within a circuit, thereby facilitating appropriate circuit responses to sensory experience (By similarity). In excitatory neurons, activates transcription of BDNF, which in turn controls the number of GABA-releasing synapses that form on excitatory neurons, thereby promoting an increased number of inhibitory synapses on excitatory neurons (By similarity). In inhibitory neurons, regulates a distinct set of target genes that serve to increase excitatory input onto somatostatin neurons, probably resulting in enhanced feedback inhibition within cortical circuits (By similarity). The excitatory and inhibitory balance in neurons affects a number of processes, such as short-term and long-term memory, acquisition of experience, fear memory, response to stress and social behavior (By similarity). Acts as a regulator of dendritic spine development in olfactory bulb granule cells in a sensory-experience-dependent manner by regulating expression of MDM2 (By similarity). Efficient DNA binding requires dimerization with another bHLH protein, such as</p>

Target Details

ARNT, ARNT2 or BMAL1 (PubMed:14701734). Can activate the CME (CNS midline enhancer) element (PubMed:14701734). {ECO:0000250|UniProtKB:Q8BGD7, ECO:0000269|PubMed:14701734}.

Molecular Weight: 87.1 kDa

UniProt: [Q8IUM7](#)

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