Datasheet for ABIN3136134

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

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Overview

Quantity:	250 µg
Target:	NPAS4
Protein Characteristics:	AA 1-802
Origin:	Mouse
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This NPAS4 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Brand:	AliCE®
Sequence:	MYRSTKGASK ARRDQINAEI RNLKELLPLA EADKVRLSYL HIMSLACIYT RKGVFFAGGT PLAGPTGLLS AQELEDIVAA LPGFLLVFTA EGKLLYLSES VSEHLGHSMV DLVAQGDSIY DIIDPADHLT VRQQLTMPSA LDADRLFRCR FNTSKSLRRQ SSGNKLVLIR GRFHAHPPGA YWAGNPVFTA FCAPLEPRPR PGPGPGPGPG PASLFLAMFQ SRHAKDLALL DVSESVLIYL GFERSELLCK SWYGLLHPED LAQASSQHYR LLAESGDIQA EMVVRLQAKH GGWTWIYCML YSEGPEGPFT ANNYPISDTE AWSLRQQLNS EDTQAAYVLG TPAVLPSFSE NVFSQEQCSN PLFTPSLGTP RSASFPRAPE LGVISTPEEL PQPSKELDFS YLPFPARPEP SLQADLSKDL VCTPPYTPHQ PGGCAFLFSL HEPFQTHLPP PSSSLQEQLT PSTVTFSEQL TPSSATFPDP LTSSLQGQLT ESSARSFEDQ LTPCTSSFPD QLLPSTATFP EPLGSPAHEQ LTPPSTAFQA HLNSPSQTFP EQLSPNPTKT YFAQEGCSFL YEKLPPSPSS PGNGDCTLLA LAQLRGPLSV DVPLVPEGLL TPEASPVKQS FFHYTEKEQN EIDRLIQQIS QLAQGVDRPF SAEAGTGGLE

PLGGLEPLNP NLSLSGAGPP VLSLDLKPWK CQELDFLVDP DNLFLEETPV EDIFMDLSTP DPNGEWGSGD PEAEVPGGTL SPCNNLSPED HSFLEDLATY ETAFETGVST FPYEGFADEL 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 in one-step affinity chromatography
- 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 try to ensure that you receive soluble 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 against its specific reference buffer.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:

One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression

Product Details

	System (AliCE®).
Purity:	> 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).
Grade:	custom-made

Target Details

Target:	NPAS4
Alternative Name:	Npas4 (NPAS4 Products)
Background:	Neuronal PAS domain-containing protein 4 (Neuronal PAS4) (HLH-PAS transcription factor NXF) (Limbic-enhanced PAS protein) (LE-PAS),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 (PubMed:18815592, PubMed:22194569, PubMed:23029555, PubMed:24201284, PubMed:24855953). Plays a key role in the structural and functional plasticity of neurons (PubMed:23172225). 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 (PubMed:24201284, PubMed:24855953). 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 (PubMed:18815592, PubMed:22194569, PubMed:24201284). 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 (PubMed:24855953). 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 (PubMed:18815592, PubMed:22194569, PubMed:23029555, PubMed:24201284, PubMed:27238022). Acts as a regulator of dendritic spine development in olfactory bulb granule cells in a sensory-experience-dependent manner by regulating expression of MDM2 (PubMed:25088421). Efficient DNA binding requires dimerization with another bHLH protein, such as ARNT, ARNT2 or BMAL1 (PubMed:14701734, PubMed:15363889, PubMed:19284974). Can activate the CME (CNS midline enhancer) element (PubMed:14701734, PubMed:15363889). {ECO:0000269|PubMed:14701734, ECO:0000269|PubMed:15363889, ECO:0000269|PubMed:18815592, ECO:0000269|PubMed:22194569, ECO:0000269|PubMed:23029555,

Target Details

	ECO:0000269|PubMed:23172225, ECO:0000269|PubMed:24201284, ECO:0000269|PubMed:24855953, ECO:0000269|PubMed:25088421, ECO:0000269|PubMed:27238022}.
Molecular Weight:	87.3 kDa
UniProt:	Q8BGD7

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. Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol **Might differ depending on protein.**
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months