

Datasheet for ABIN3088890
alpha Adaptin Protein (AA 1-977) (Strep Tag)

1 Image



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Overview

Quantity:	1 mg
Target:	alpha Adaptin (AP2A1)
Protein Characteristics:	AA 1-977
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This alpha Adaptin protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	MPAVSKGDGM RGLAVFISDI RNCKSKEAEI KRINKELANI RSKFKGDKAL DGYSKKKYVC KLLFIFLLGH DIDFGHMEAV NLLSSNKYTE KQIGYLFISV LVNSNSELIR LINNAIKNDL ASRNPTFMCL ALHCIANVGS REMGEAFAAD IPRILVAGDS MDSVKQSAAL CLLRLYKASP DLVPMGEWTA RVVHLLNDQH MGVVTAAVSL ITCLCKKNPD DFKTCVSLAV SRLSRIVSSA STDLQDYTTY FVPAPWLSVK LLRLLQCYPP PEDAAVKGRL VECLETVLNK AQEPPKSKKV QHSNAKNAIL FETISLIHY DSEPNLLVRA CNQLGQFLQH RETNLRYLAL ESMCTLASSE FSHEAVKTHI DTVINALKTE RDVSVRQRAA DLLYAMCDRS NAKQIVSEML RYLETADYAI REEIVLKVAI LAEKYAVDYS WYVDTILNLI RIAGDYVSEE VWYRVLQIVT NRDDVQGYAA KTVFEALQAP ACHENMVKVG GYILGEFGNL IAGDPRSSPP VQFSLHSKF HLCSVATRAL LLSTYIKFIN LFPETKATIQ GVLRAGSQLR NADVELQQRA VEYLTLSVA STDVLATVLE EMPPFPERES SILAKLKRKK GPGAGSALDD GRRDPSSNDI NGGMEPTPST VSTSPSADL LGLRAAPPPA APPASAGAGN LLVDVFDGPA AQPSLGPTPE EAFLSELEPP APESPMALLA
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DPAPAADPGP EDIGPPIPEA DELLNKFVCK NNGVLFENQL LQIGVKSEFR QNLGRMYLFY
GNKTSVQFQN FSPTVVHPGD LQTQLAVQTK RVAAQVDGGA QVQQVLNIEC LRDFLTPPLL
SVRFRYGGAP QALTLKLPVT INKFFQPTM AAQDFFQRWK QLSLPQQEAQ KIFKANHPMD
AEVTKAKLLG FGSALLDNVD PNPENFVGAG IIQTKALQVG CLLRLEPNAQ AQMYRLTLRT
SKEPVSRHLC ELLAQQF

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

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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:	alpha Adaptin (AP2A1)
Alternative Name:	AP2A1 (AP2A1 Products)
Background:	AP-2 complex subunit alpha-1 (100 kDa coated vesicle protein A) (Adaptor protein complex AP-2 subunit alpha-1) (Adaptor-related protein complex 2 subunit alpha-1) (Alpha-adaptin A) (Alpha1-adaptin) (Clathrin assembly protein complex 2 alpha-A large chain) (Plasma membrane adaptor HA2/AP2 adaptin alpha A subunit),FUNCTION: Component of the adaptor protein complex 2 (AP-2). Adaptor protein complexes function in protein transport via transport vesicles in different membrane traffic pathways. Adaptor protein complexes are vesicle coat components and appear to be involved in cargo selection and vesicle formation. AP-2 is involved in clathrin-dependent endocytosis in which cargo proteins are incorporated into vesicles surrounded by clathrin (clathrin-coated vesicles, CCVs) which are destined for fusion with the early endosome. The clathrin lattice serves as a mechanical scaffold but is itself unable to bind directly to membrane components. Clathrin-associated adaptor protein (AP) complexes which can bind directly to both the clathrin lattice and to the lipid and protein components of membranes are considered to be the major clathrin adaptors contributing the CCV formation. AP-2 also serves as a cargo receptor to selectively sort the membrane proteins involved in receptor-mediated endocytosis. AP-2 seems to play a role in the recycling of synaptic vesicle membranes from the presynaptic surface. AP-2 recognizes Y-X-X-[FILMV] (Y-X-

Target Details

X-Phi) and [ED]-X-X-X-L-[LI] endocytosis signal motifs within the cytosolic tails of transmembrane cargo molecules. AP-2 may also play a role in maintaining normal post-endocytic trafficking through the ARF6-regulated, non-clathrin pathway. During long-term potentiation in hippocampal neurons, AP-2 is responsible for the endocytosis of ADAM10 (PubMed:23676497). The AP-2 alpha subunit binds polyphosphoinositide-containing lipids, positioning AP-2 on the membrane. The AP-2 alpha subunit acts via its C-terminal appendage domain as a scaffolding platform for endocytic accessory proteins. The AP-2 alpha and AP-2 sigma subunits are thought to contribute to the recognition of the [ED]-X-X-X-L-[LI] motif (By similarity). {ECO:0000250, ECO:0000269|PubMed:14745134, ECO:0000269|PubMed:15473838, ECO:0000269|PubMed:19033387, ECO:0000269|PubMed:23676497}.

Molecular Weight: 107.5 kDa

UniProt: [O95782](#)

Pathways: [Notch Signaling](#), [EGFR Signaling Pathway](#), [Neurotrophin Signaling Pathway](#), [EGFR Downregulation](#)

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

Handling

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)

Images



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