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## ATP2C1 Protein (AA 1-919) (Strep Tag)



#### Overview

Quantity:	1 mg
Target:	ATP2C1
Protein Characteristics:	AA 1-919
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This ATP2C1 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

#### **Product Details**

Sequence:

MKVARFQKIP NGENETMIPV LTSKKASELP VSEVASILQA DLQNGLNKCE VSHRRAFHGW
NEFDISEDEP LWKKYISQFK NPLIMLLLAS AVISVLMHQF DDAVSITVAI LIVVTVAFVQ
EYRSEKSLEE LSKLVPPECH CVREGKLEHT LARDLVPGDT VCLSVGDRVP ADLRLFEAVD
LSIDESSLTG ETTPCSKVTA PQPAATNGDL ASRSNIAFMG TLVRCGKAKG VVIGTGENSE
FGEVFKMMQA EEAPKTPLQK SMDLLGKQLS FYSFGIIGII MLVGWLLGKD ILEMFTISVS
LAVAAIPEGL PIVVTVTLAL GVMRMVKKRA IVKKLPIVET LGCCNVICSD KTGTLTKNEM
TVTHIFTSDG LHAEVTGVGY NQFGEVIVDG DVVHGFYNPA VSRIVEAGCV CNDAVIRNNT
LMGKPTEGAL IALAMKMGLD GLQQDYIRKA EYPFSSEQKW MAVKCVHRTQ QDRPEICFMK
GAYEQVIKYC TTYQSKGQTL TLTQQQRDVY QQEKARMGSA GLRVLALASG PELGQLTFLG
LVGIIDPPRT GVKEAVTTLI ASGVSIKMIT GDSQETAVAI ASRLGLYSKT SQSVSGEEID
AMDVQQLSQI VPKVAVFYRA SPRHKMKIIK SLQKNGSVVA MTGDGVNDAV ALKAADIGVA

TLMNFPNPLN AMQILWINII MDGPPAQSLG VEPVDKDVIR KPPRNWKDSI LTKNLILKIL VSSIIIVCGT LFVFWRELRD NVITPRDTTM TFTCFVFFDM FNALSSRSQT KSVFEIGLCS NRMFCYAVLG SIMGQLLVIY FPPLQKVFQT ESLSILDLLF LLGLTSSVCI VAEIIKKVER SREKIQKHVS STSSSFLEV

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 posttranslational 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.
- 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)

### **Target Details**

Target:

ATP2C1

Alternative Name:

ATP2C1 (ATP2C1 Products)

#### Background:

Calcium-transporting ATPase type 2C member 1 (ATPase 2C1) (EC 7.2.2.10) (ATP-dependent Ca(2+) pump PMR1) (Ca(2+)/Mn(2+)-ATPase 2C1) (Secretory pathway Ca(2+)-transporting ATPase type 1) (SPCA1), FUNCTION: ATP-driven pump that supplies the Golgi apparatus with Ca(2+) and Mn(2+) ions, both essential cofactors for processing and trafficking of newly synthesized proteins in the secretory pathway (PubMed:16192278, PubMed:30923126, PubMed:21187401, PubMed:12707275, PubMed:20439740). Within a catalytic cycle, acquires Ca(2+) or Mn(2+) ions on the cytoplasmic side of the membrane and delivers them to the lumenal side. The transfer of ions across the membrane is coupled to ATP hydrolysis and is associated with a transient phosphorylation that shifts the pump conformation from inwardfacing to outward-facing state (PubMed:16192278, PubMed:16332677, PubMed:30923126). Plays a primary role in the maintenance of Ca(2+) homeostasis in the trans-Golgi compartment with a functional impact on Golgi and post-Golgi protein sorting as well as a structural impact on cisternae morphology (PubMed:20439740, PubMed:14632183). Responsible for loading the Golgi stores with Ca(2+) ions in keratinocytes, contributing to keratinocyte differentiation and epidermis integrity (PubMed:14632183, PubMed:10615129, PubMed:20439740). Participates in Ca(2+) and Mn(2+) ions uptake into the Golgi store of hippocampal neurons and regulates protein trafficking required for neural polarity (By similarity). May also play a role in the maintenance of Ca(2+) and Mn(2+) homeostasis and signaling in the cytosol while preventing cytotoxicity (PubMed:21187401). {ECO:0000250|UniProtKB:Q80XR2,

Target Details	
	ECO:0000269 PubMed:10615129, ECO:0000269 PubMed:12707275,
	ECO:0000269 PubMed:14632183, ECO:0000269 PubMed:16192278,
	ECO:0000269 PubMed:16332677, ECO:0000269 PubMed:20439740,
	ECO:0000269 PubMed:21187401, ECO:0000269 PubMed:30923126}.
Molecular Weight:	100.6 kDa
UniProt:	P98194
Pathways:	Transition Metal Ion Homeostasis, Ribonucleoside Biosynthetic Process
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.

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Expiry Date:

Unlimited (if stored properly)