

Datasheet for ABIN3114338  
ATP7A Protein (AA 1-1500) (Strep Tag)



[Go to Product page](#)

Overview

Quantity:	1 mg
Target:	ATP7A
Protein Characteristics:	AA 1-1500
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This ATP7A protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence:	MDPSMGVNSV TISVEGMTCN SCVWTIEQQI GKVNGVHHIK VSLEEKNATI IYDPKLQTPK TLQEAIDDMG FDAVIHNPDP LPVLTDTLFL TVTASLTLPW DHIQSTLLKT KGVTDIKIYP QKRTVAVTII PSIVNANQIK ELVPELSLDT GTLEKKSGAC EDHSMQAAGE VVLKMKVEGM TCHSCTSTIE GKIGKLQGVQ RIKVSLDNQE ATIVYQPHLI SVEEMKKQIE AMGFPFVKK QPKYLKLGAI DVERLKNTPV KSSEGSQQRS PSYTNDSTAT FIIDGMHCKS CVSNIESTLS ALQYVSSIVV SLENRSAIVK YNASSVTPES LRKAIEAVSP GLYRV SITSE VESTSNSPSS SSLQKIPLNV VSQPLTQETV INIDGMT CNS CVQSI EGVIS KKP GVKSIRV SLANSNGTVE YDPLLTSPET LRGAIEDMGF DATLSDTNEP LVVIAQPSSE MPLLTSTNEF YTKGMTVPVQD KEEGKNSSKC YIQVTGMTCA SCVANIERNL RREGIYSIL VALMAGKAEV RYNPAVIQPP MIAEFIRELG FGATVIENAD EGDGVLELVV RGMTCASC VH KIESSLTKHR GILYCSVALA TNKAHIKYDP EIIGPRDIIH TIESLGFEAS LVKKDRSASH LDHKREIRQW RRSFLVSLFF CIPVMGLMIY MMVMDHHFAT LHHNQNM SKE EMINLHSSMF LERQILPGLS VMNLLSFLLC
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VPVQFFGGWY FYIQAYKALK HKTANMDVLI VLATTIAFAY SLIILLVAMY ERAKVNPI TF  
FDTPPMLFVF IALGRWLEHI AKGKTSEALA KLISLQATEA TIVTLDS DNI LLSEEQVDVE  
LVQRGDIK V VPGGKFPVDG RVIEGHSMVD ESLITGEAMP VAKKPGSTVI AGSINQNGSL  
LICATHVGAD TTLSQIVKLV EEAQTSKAPI QQFADKLSGY FVPFIVFVSI ATLLVWIVIG FLNFEIVETY  
FPGYNRSISR TETIIRFAFQ ASITVLCIAC PCSLGLATPT AVMVGTGVGA QNGILIKGGE  
PLEMAHKVKV VVFDKTGTIT HGTPVVNQVK VLTESNRISH HKILAIVGTA ESNSEHPLGT  
AITKYCKQEL DTETLGT CID FQVVP GCGIS CKVTNIEGLL HKNNWNIEDN NIKNASLVQI  
DASNEQSSTS SSMIIDAQIS NALNAQQYKV LIGNREWMIR NGLVINNDVN DFMTEHERKG  
RTAVLVAVDD ELCGLIAIAD TVKPEAELAI HILKSMGLEV VLMTGDNSKT ARSIASQVGI  
TKVFAEVLPS HKVAKVKQLQ EEGKRVAMVG DGINDSPALA MANVGIAIGT GTDVAIEAAD  
VVLIRNDLLD VVASIDLSRK TVKRIRINFV FALIYNLVGI PIAAGVFMPI GLVLQPWMGS  
AAMAASSVSV VLSSLFLKLY RKPTYESYEL PARSQIGQKS PSEISVHVGI DDTSRNSPKL  
GLLDRIVNYS RASINSLLS D KRSLSNVVTS EPDKHSLLVG DFREDDDTAL

**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

## Product Details

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:	ATP7A
Alternative Name:	ATP7A ( <a href="#">ATP7A Products</a> )
Background:	Copper-transporting ATPase 1 (EC 7.2.2.8) (Copper pump 1) (Menkes disease-associated protein),FUNCTION: ATP-driven copper (Cu(+)) ion pump that plays an important role in intracellular copper ion homeostasis (PubMed:10419525, PubMed:11092760, PubMed:28389643). Within a catalytic cycle, acquires Cu(+) ion from donor protein on the cytoplasmic side of the membrane and delivers it to acceptor protein on the luminal side. The transfer of Cu(+) ion across the membrane is coupled to ATP hydrolysis and is associated with a transient phosphorylation that shifts the pump conformation from inward-facing to outward-facing state (PubMed:10419525, PubMed:19453293, PubMed:19917612, PubMed:31283225,

## Target Details

PubMed:28389643). Under physiological conditions, at low cytosolic copper concentration, it is localized at the trans-Golgi network (TGN) where it transfers Cu(+) ions to cuproenzymes of the secretory pathway (PubMed:28389643, PubMed:11092760). Upon elevated cytosolic copper concentrations, it relocates to the plasma membrane where it is responsible for the export of excess Cu(+) ions (PubMed:10419525, PubMed:28389643). May play a dual role in neuron function and survival by regulating copper efflux and neuronal transmission at the synapse as well as by supplying Cu(+) ions to enzymes such as PAM, TYR and SOD3 (PubMed:28389643) (By similarity). In the melanosomes of pigmented cells, provides copper cofactor to TYR to form an active TYR holoenzyme for melanin biosynthesis (By similarity). {ECO:0000250|UniProtKB:Q64430, ECO:0000269|PubMed:10419525, ECO:0000269|PubMed:11092760, ECO:0000269|PubMed:19453293, ECO:0000269|PubMed:19917612, ECO:0000269|PubMed:28389643, ECO:0000269|PubMed:31283225}.

Molecular Weight: 163.4 kDa

UniProt: [Q04656](#)

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.
Expiry Date:	Unlimited (if stored properly)

## Images



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