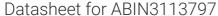
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# ATP1A2 Protein (AA 6-1020) (rho-1D4 tag)





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#### Overview

Quantity:	1 mg
Target:	ATP1A2
Protein Characteristics:	AA 6-1020
Origin:	Human
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This ATP1A2 protein is labelled with rho-1D4 tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

#### **Product Details**

Sequence:

GREYSPAATT AENGGGKKKQ KEKELDELKK EVAMDDHKLS LDELGRKYQV DLSKGLTNQR
AQDVLARDGP NALTPPPTTP EWVKFCRQLF GGFSILLWIG AILCFLAYGI QAAMEDEPSN
DNLYLGVVLA AVVIVTGCFS YYQEAKSSKI MDSFKNMVPQ QALVIREGEK MQINAEEVVV
GDLVEVKGGD RVPADLRIIS SHGCKVDNSS LTGESEPQTR SPEFTHENPL ETRNICFFST
NCVEGTARGI VIATGDRTVM GRIATLASGL EVGRTPIAME IEHFIQLITG VAVFLGVSFF
VLSLILGYSW LEAVIFLIGI IVANVPEGLL ATVTVCLTLT AKRMARKNCL VKNLEAVETL
GSTSTICSDK TGTLTQNRMT VAHMWFDNQI HEADTTEDQS GATFDKRSPT WTALSRIAGL
CNRAVFKAGQ ENISVSKRDT AGDASESALL KCIELSCGSV RKMRDRNPKV AEIPFNSTNK
YQLSIHERED SPQSHVLVMK GAPERILDRC STILVQGKEI PLDKEMQDAF QNAYMELGGL
GERVLGFCQL NLPSGKFPRG FKFDTDELNF PTEKLCFVGL MSMIDPPRAA VPDAVGKCRS
AGIKVIMVTG DHPITAKAIA KGVGIISEGN ETVEDIAARL NIPMSQVNPR EAKACVVHGS
DLKDMTSEQL DEILKNHTEI VFARTSPQQK LIIVEGCQRQ GAIVAVTGDG VNDSPALKKA

DIGIAMGISG SDVSKQAADM ILLDDNFASI VTGVEEGRLI FDNLKKSIAY TLTSNIPEIT PFLLFIIANI
PLPLGTVTIL CIDLGTDMVP AISLAYEAAE SDIMKRQPRN SQTDKLVNER LISMAYGQIG
MIQALGGFFT YFVILAENGF LPSRLLGIRL DWDDRTMNDL EDSYGQEWTY EQRKVVEFTC
HTAFFASIVV VQWADLIICK TRRNSVFQQG MKNKILIFGL LEETALAAFL SYCPGMGVAL
RMYPLKVTWW FCAFPYSLLI FIYDEVRKLI LRRYPGGWVE KETYY

Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.

#### Characteristics:

- Made in Germany from design to production by highly experienced protein experts.
- Human ATP1A2 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.
- 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.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receival of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered. 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.

The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

#### Purification:

Three step purification of membrane proteins expressed in baculovirus infected SF9 insect cells:

- 1. Membrane proteins are fractioned by ultracentrifugation and subsequently solubilized with different detergents (detergent screen). Samples are analyzed by Western blot.
- 2. The best performing detergent is used for solubilization and the proteins are purified via their rho1D4 tag via two rho1D4 antibody columns: one DTT resistant, the other one not. Eluate fractions are analyzed by Western blot.
- 3. Protein containing fractions of the best purification are subjected to second purification step

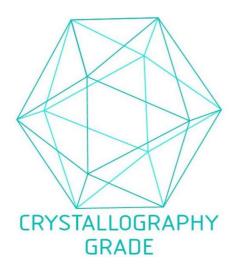
## **Product Details**

Troduct Details	
	through size exclusion chromatograph. Eluate fractions are analyzed by SDS-PAGE and Western blot.
Purity:	>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Sterility:	0.22 µm filtered
Endotoxin Level:	Protein is endotoxin-free.
Grade:	Crystallography grade
Target Details	
Target:	ATP1A2
Alternative Name:	ATP1A2 (ATP1A2 Products)
Background:	This is the catalytic component of the active enzyme, which catalyzes the hydrolysis of ATP coupled with the exchange of sodium and potassium ions across the plasma membrane. This action creates the electrochemical gradient of sodium and potassium, providing the energy for active transport of various nutrients.
Molecular Weight:	113.0 kDa Including tag.
UniProt:	P50993
Pathways:	Thyroid Hormone Synthesis, Proton Transport, 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:	In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.
Restrictions:	For Research Use only
Handling	

# Handling

100 mM NaCL, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.
Avoid repeated freeze-thaw cycles.
-80 °C
Store at -80°C.
Unlimited (if stored properly)

## **Images**



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