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# **ENPP1 Protein (AA 1-906) (Strep Tag)**



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#### Overview

Quantity:	1 mg
Target:	ENPP1
Protein Characteristics:	AA 1-906
Origin:	Mouse
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This ENPP1 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

## **Product Details**

# Sequence:

MERDGDQAGH GPRHGSAGNG RELESPAAAS LLAPMDLGEE PLEKAERARP AKDPNTYKVL SLVLSVCVLT TILGCIFGLK PSCAKEVKSC KGRCFERTFS NCRCDAACVS LGNCCLDFQE TCVEPTHIWT CNKFRCGEKR LSRFVCSCAD DCKTHNDCCI NYSSVCQDKK SWVEETCESI DTPECPAEFE SPPTLLFSLD GFRAEYLHTW GGLLPVISKL KNCGTYTKNM RPMYPTKTFP NHYSIVTGLY PESHGIIDNK MYDPKMNASF SLKSKEKFNP LWYKGQPIWV TANHQEVKSG TYFWPGSDVE IDGILPDIYK VYNGSVPFEE RILAVLEWLQ LPSHERPHFY TLYLEEPDSS GHSHGPVSSE VIKALQKVDR LVGMLMDGLK DLGLDKCLNL ILISDHGMEQ GSCKKYVYLN KYLGDVNNVK VVYGPAARLR PTDVPETYYS FNYEALAKNL SCREPNQHFR PYLKPFLPKR LHFAKSDRIE PLTFYLDPQW QLALNPSERK YCGSGFHGSD NLFSNMQALF IGYGPAFKHG AEVDSFENIE VYNLMCDLLG LIPAPNNGSH GSLNHLLKKP IYNPSHPKEE GFLSQCPIKS TSNDLGCTCD PWIVPIKDFE KQLNLTTEDV DDIYHMTVPY GRPRILLKQH HVCLLQQQF LTGYSLDLLM PLWASYTFLR NDQFSRDDFS NCLYQDLRIP LSPVHKCSYY KSNSKLSYGF

LTPPRLNRVS NHIYSEALLT SNIVPMYQSF QVIWHYLHDT LLQRYAHERN GINVVSGPVF
DFDYDGRYDS LEILKQNSRV IRSQEILIPT HFFIVLTSCK QLSETPLECS ALESSAYILP
HRPDNIESCT HGKRESSWVE ELLTLHRARV TDVELITGLS FYQDRQESVS ELLRLKTHLP IFSQED

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.

## **Product Details**

#### 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:

ENPP1

Alternative Name:

Enpp1 (ENPP1 Products)

Background:

Ectonucleotide pyrophosphatase/phosphodiesterase family member 1 (E-NPP 1) (Lymphocyte antigen 41) (Ly-41) (Phosphodiesterase I/nucleotide pyrophosphatase 1) (Plasma-cell membrane glycoprotein PC-1) [Cleaved into: Ectonucleotide pyrophosphatase/phosphodiesterase family member 1, secreted form] [Includes: Alkaline phosphodiesterase I (EC 3.1.4.1), Nucleotide pyrophosphatase (NPPase) (EC 3.6.1.9) (Nucleotide diphosphatase)],FUNCTION: Nucleotide pyrophosphatase that generates diphosphate (PPi) and functions in bone mineralization and soft tissue calcification by regulating pyrophosphate levels (PubMed:9662402, PubMed:10352096, PubMed:11004006, PubMed:12082181, PubMed:22510396, PubMed:25260930). PPi inhibits bone mineralization and soft tissue calcification by binding to nascent hydroxyapatite crystals, thereby preventing further growth of these crystals (PubMed:9662402, PubMed:10352096, PubMed:11004006, PubMed:12082181, PubMed:19419305, PubMed:22510396, PubMed:25260930, PubMed:25479107, PubMed:26910915, PubMed:30111653, PubMed:35147247). Preferentially hydrolyzes ATP, but can also hydrolyze other nucleoside 5' triphosphates such as GTP, CTP and UTP to their corresponding monophosphates with release of pyrophosphate, as well as diadenosine polyphosphates, and also 3',5'-cAMP to AMP (PubMed:11027689, PubMed:1647027, PubMed:23027977, PubMed:8223581). May also be involved in the regulation of the availability of nucleotide sugars in the endoplasmic reticulum and Golgi, and the regulation of purinergic signaling (PubMed:1647027). Inhibits ectopic joint calcification and maintains articular chondrocytes by repressing hedgehog signaling, it is however unclear whether hedgehog inhibition is direct or indirect (PubMed:30111653). Appears to modulate

insulin sensitivity (By similarity). Also involved in melanogenesis (By similarity). Also able to hydrolyze 2',3'-cGAMP (cyclic GMP-AMP), a second messenger that activates TMEM173/STING and triggers type-I interferon production (PubMed:25344812). 2',3'-cGAMP degradation takes place in the lumen or extracellular space, and not in the cytosol where it is produced, the role of 2',3'-cGAMP hydrolysis is therefore unclear (By similarity). Not able to hydrolyze the 2',3'-cGAMP linkage isomer 3',3'-cGAMP (By similarity). {ECO:0000250|UniProtKB:P22413,

ECO:0000269|PubMed:10352096, ECO:0000269|PubMed:11004006,

ECO:0000269|PubMed:11027689, ECO:0000269|PubMed:12082181,

ECO:0000269|PubMed:1647027, ECO:0000269|PubMed:19419305,

ECO:0000269|PubMed:22510396, ECO:0000269|PubMed:23027977,

ECO:0000269|PubMed:25260930, ECO:0000269|PubMed:25344812,

ECO:0000269|PubMed:25479107, ECO:0000269|PubMed:26910915,

ECO:0000269|PubMed:30111653, ECO:0000269|PubMed:35147247,

ECO:0000269|PubMed:8223581, ECO:0000269|PubMed:9662402}.

Molecular Weight:

103.2 kDa

UniProt:

P06802

Pathways:

Regulation of Carbohydrate Metabolic 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:

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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)