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Datasheet for ABIN3131102  
**SEPN1 Protein (AA 43-557) (His tag)**

### Overview

Quantity:	1 mg
Target:	SEPN1
Protein Characteristics:	AA 43-557
Origin:	Mouse
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Purification tag / Conjugate:	This SEPN1 protein is labelled with His tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA, Crystallization (Crys)

### Product Details

Sequence: VAAARACALL ADAQAAARQE SALKVLGTDG LFLFSSLDTD QDMYISPEEF KPIAEKLTGS  
VPVANYEEEE LPHDPSEETL TIEARFQPLL METMTKSKDG FLGVSRLALS GLRNWTTAAS  
PSAAFAARHF RPFLPPPGQE LGQPWWIIPG ELSVFTGYLS NNRFYPPPPK GKEVIIHRL  
SMFHPRPFVK TRFAPQGTVA CLTAISDSYY TVMFRIHAEF QLSEPPDFPF WFSPGQFTGH  
IILSKDATHI RDFRLFVPNH RSLNVDMEWL YGASETSNME VDIGYVPQME LEAVGPSVPS  
VILDEDGNMI DSRLPSGEPL QVFEEIKWH QELSWEEAAR RLEVAMYPFK KVNLYLPFTEA  
FDRARAEEKL VHSILLWGAL DDQSCUGSGR TLRETVLESP PILTLLNESF ISTWLSVKEL  
EDLQTQQENP LHRQLAGLHL EKYSFPVEMM ICLPNGTVVH HINANYFLDI TSMKPEDMEN  
NNVFSFSSSF EDPSTATYMQ FLREGLRRGL PLLQP

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

## Product Details

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### Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Mouse Sepn1 Protein (raised in E. Coli) 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 receipt 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.

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### Purification:

Two step purification of proteins expressed in bacterial culture:

1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. 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.

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### Purity:

>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

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### Sterility:

0.22 µm filtered

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### Endotoxin Level:

Endotoxin has not been removed. Please contact us if you require endotoxin removal.

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### Grade:

Crystallography grade

## Target Details

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Target:	SEPN1
Alternative Name:	Sepn1 ( <a href="#">SEPN1 Products</a> )
Background:	<p>Plays an important role in cell protection against oxidative stress and in the regulation of redox-related calcium homeostasis. Regulates the calcium level of the ER by protecting the calcium pump ATP2A2 against the oxidoreductase ERO1A-mediated oxidative damage. Within the ER, ERO1A activity increases the concentration of H<sub>2</sub>O<sub>2</sub>, which attacks the luminal thiols in ATP2A2 and thus leads to cysteinyl sulfenic acid formation (-SOH) and SEPN1 reduces the SOH back to free thiol (-SH), thus restoring ATP2A2 activity (PubMed:25452428). Acts as a modulator of ryanodine receptor (RyR) activity: protects RyR from oxidation due to increased oxidative stress, or directly controls the RyR redox state, regulating the RyR-mediated calcium mobilization required for normal muscle development and differentiation (By similarity). Essential for muscle regeneration and satellite cell maintenance in skeletal muscle (PubMed:21131290). {ECO:0000250 UniProtKB:Q9NZV5, ECO:0000269 PubMed:21131290, ECO:0000269 PubMed:25452428}.</p>
Molecular Weight:	59.2 kDa Including tag.
UniProt:	<a href="#">D3Z2R5</a>
Pathways:	<a href="#">Skeletal Muscle Fiber Development</a>

## Application Details

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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:	Protein has not been tested for activity yet. 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

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Format:	Liquid
Buffer:	100 mM NaCl, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.

## Handling

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Storage: -80 °C

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Storage Comment: Store at -80°C.

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Expiry Date: Unlimited (if stored properly)