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Datasheet for ABIN3136560

## Shootin-1 (SHTN1) (AA 1-631) protein (His tag)

### 1 Image

#### Overview

Quantity:	1 mg
Target:	Shootin-1 (SHTN1)
Protein Characteristics:	AA 1-631
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	His tag
Application:	ELISA, Western Blotting (WB), Crystallization (Crys), SDS-PAGE (SDS)

#### Product Details

Sequence: MNSSDEEKQL QLITSLKEQA IGEYEDLRAE NQKTKEKCDK IRQERDEAVK KLEEFQKISH  
 MVIEEVNFMQ NHLEIEKTCR ESAEALATKL NKENKTLKRI SMLYMAKLGP DVITEEINID  
 DDDPATDTDA AAETCVSVQC QKQIKELRDQ IVSVQEEKKV LAIELENLKS KLGEVMEEVN  
 KVKQEKAVLN SEVLEQRKVL EKCNRVSMVA VEEYEELQVN LELEKDLRKK AESFAQEMFI  
 EQNKLKRQSH LLLQSSLPDQ QLLKALDENA KLIQQLEEEER IQHQKKVKEL EERLENEALH  
 KEIHNLRQQL ELLEDDKREL EQKYQSSEK ARNLKHSVDE LQKRVNQRSEN SVPPPPPPPP  
 PLPPPPPNPI RSLMSMIRKR SHPSGNSAKK EKTTQPETA E VTDLKRQAV EEMMDRIKKG  
 VHLRPVNQTA RPKAKPDSLK GSESAVDELK GILGTLNKST SSRSLKSLGP ENSETELERI  
 LRRRKLTAEA DSSSPTGILA TSESKSMPVL GSVSSVTKSA LNKKTLEAEF NNPCLTPEP  
 GEGPRKLEGC TNPKVTFQPP SKGGYRRKCV GSENQAEPVW VLDPVSTHEP QTKDQAAEKD  
 PTQFEEEGGE TQPEYKEDSG GKTGETDSSN C

**Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a**

### special request, please contact us.

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#### Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Mouse Shtn1 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 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 baculovirus infected SF9 insect cells:

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:

Protein is endotoxin free.

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#### Grade:

Crystallography grade

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## Target Details

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Target: Shootin-1 (SHTN1)

Alternative Name: Shtn1 ([SHTN1 Products](#))

Background: Involved in the generation of internal asymmetric signals required for neuronal polarization and neurite outgrowth (PubMed:23864681). Mediates netrin-1-induced F-actin-substrate coupling or 'clutch engagement' within the axon growth cone through activation of CDC42, RAC1 and PAK1-dependent signaling pathway, thereby converting the F-actin retrograde flow into traction forces, concomitantly with filopodium extension and axon outgrowth. Plays a role in cytoskeletal organization by regulating the subcellular localization of phosphoinositide 3-kinase (PI3K) activity at the axonal growth cone. Plays also a role in regenerative neurite outgrowth (By similarity). In the developing cortex, cooperates with KIF20B to promote both the transition from the multipolar to the bipolar stage and the radial migration of cortical neurons from the ventricular zone toward the superficial layer of the neocortex (PubMed:23864681). Involved in the accumulation of phosphatidylinositol 3,4,5-trisphosphate (PIP3) in the growth cone of primary hippocampal neurons (PubMed:23864681). {ECO:0000250|UniProtKB:A0MZ67, ECO:0000269|PubMed:23864681}.

Molecular Weight: 72.3 kDa Including tag.

UniProt: [Q8K2Q9](#)

## 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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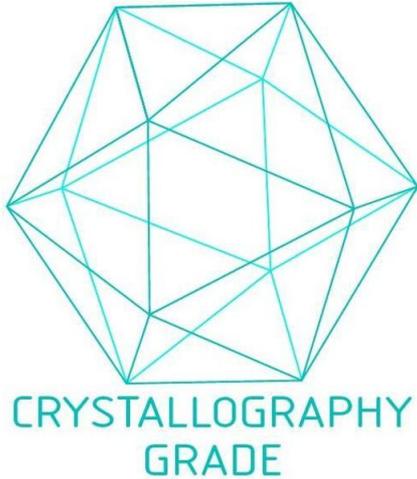
Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: Unlimited (if stored properly)

## Images

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