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Datasheet for ABIN3128850

**Serine (Or Cysteine) Peptidase Inhibitor, Clade B, Member 1a (SERPINB1A) (AA 1-379) protein (Strep Tag)**

## Overview

Quantity:	1 mg
Target:	Serine (Or Cysteine) Peptidase Inhibitor, Clade B, Member 1a (SERPINB1A)
Protein Characteristics:	AA 1-379
Origin:	Mouse
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	Strep Tag
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB)

## Product Details

Sequence: MEQLSSANTL FALELFQTLN ESSPTGNIFF SPFSISSALA MVILGAKGST AAQLSKTFHF  
DSVEDIHSRF QSLNAEVSKR GASHTLKLAN RLYGEKTYNF LPEYLASTQK MYGADLAPVD  
FLHASEDARK EINQWVKGQT EGKIPPELLSV GVVDSMTKLK LVNAIYFKGM WEEKFMTEDT  
TDAPFRLSKK DTKTVKMMYQ KKKFPFGYIS DLKCKVLEMP YQGGELSMVI LLPKDIEDES  
TGLKKIEKQI TLEKLLEWTK RENLEFIDVH VKLPRFKIEE SYTLNSNLGR LGVQDLFSSS  
KADLSGMSG S RDLFISKIVH KSFVEVNEEG TEAAAATGGI ATFCMLLPEE EFTVDHPFIF  
FIRHNPTSNV LFLGRVCSP

**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:
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- 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 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.

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### 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.

## Product Details

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:	Serine (Or Cysteine) Peptidase Inhibitor, Clade B, Member 1a (SERPINB1A)
Alternative Name:	Serpinb1a ( <a href="#">SERPINB1A Products</a> )
Background:	<p>Leukocyte elastase inhibitor A (Serine protease inhibitor EIA) (Serpin B1a),FUNCTION: Neutrophil serine protease inhibitor that plays an essential role in the regulation of the innate immune response, inflammation and cellular homeostasis (PubMed:17664292, PubMed:21683252, PubMed:21248149, PubMed:30692621). Acts primarily to protect the cell from proteases released in the cytoplasm during stress or infection (PubMed:17664292). These proteases are important in killing microbes but when released from granules, these potent enzymes also destroy host proteins and contribute to mortality. Regulates the activity of the neutrophil proteases elastase, cathepsin G, proteinase-3, chymase, chymotrypsin, and kallikrein-3. Acts also as a potent intracellular inhibitor of granzyme H (PubMed:12189154). During inflammation, limits the activity of inflammatory caspases CASP1 and CASP4 by suppressing their caspase-recruitment domain (CARD) oligomerization and enzymatic activation (PubMed:30692621). In addition, promotes the proliferation of beta-cells when secreted (PubMed:26701651). {ECO:0000269 PubMed:12189154, ECO:0000269 PubMed:17664292, ECO:0000269 PubMed:21248149, ECO:0000269 PubMed:21683252, ECO:0000269 PubMed:26701651, ECO:0000269 PubMed:30692621}.</p>
Molecular Weight:	42.6 kDa
UniProt:	<a href="#">Q9D154</a>

## 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 <i>Nicotiana tabacum</i> 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

Application Details

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)