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Datasheet for ABIN3112162

## SLC3A2 Protein (AA 1-630) (Strep Tag)

### 1 Image

#### Overview

Quantity:	1 mg
Target:	SLC3A2
Protein Characteristics:	AA 1-630
Origin:	Human
Source:	Tobacco ( <i>Nicotiana tabacum</i> )
Protein Type:	Recombinant
Purification tag / Conjugate:	This SLC3A2 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

#### Product Details

Sequence: MELQPPEASI AVVSIPRQLP GSHSEAGVQG LSAGDDSELG SHCVAQTGLE LLASGDPLPS  
 ASQNAEMIET GSDCVTQAGL QLLASSDPPA LASKNAEVTG TMSQDTEVDM KEVELNELEP  
 EKQPMNAASG AAMSLAGA EK NGLVKIKVAE DEAEAAAAAK FTGLSKEELL KVAGSPGWVR  
 TRWALLLLFW LGWLGMLAGA VVIIVRAPRC RELPAQKWWH TGALYRIGDL QAFQGHGAGN  
 LAGLKGRLDY LSSLKVKGLV LGPIHKNQKD DVAQTDLLQI DPNFGSKEDF DSSLQSAKKK  
 SIRVILDTP NYRGENSWFS TQVDTVATKV KDALEFWLQA GVDGFQVRDI ENLKDASSFL  
 AEWQNITKGF SEDRLIAGT NSSDLQQILS LLESNKDLLL TSSYLSDSGS TGEHTKSLVT  
 QYLNATGNRW CSWSLSQARL LTSFLPAQLL RLYQLMLFTL PGTPVFSYGD EIGLDAAALP  
 GQPMEAPVML WDESSFPDIP GAVSANMTVK GQSEDPGSLI SLFRRLSDQR SKERSLLHGD  
 FHAFSAGPGL FSYIRHWDQN ERFLVVLNFG DVGLSAGLQA SDLPASASLP AKADLLLSTQ  
 PGREEGSPLE LERLKLEPHE GLLLRFPYAA

**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.**

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### 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 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
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## Product Details

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- 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.

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Purity: >80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

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Endotoxin Level: Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)

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Grade: Crystallography grade

## Target Details

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Target: SLC3A2

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Alternative Name: SLC3A2 ([SLC3A2 Products](#))

Background: Amino acid transporter heavy chain SLC3A2 (4F2 cell-surface antigen heavy chain) (4F2hc) (4F2 heavy chain antigen) (Lymphocyte activation antigen 4F2 large subunit) (Solute carrier family 3 member 2) (CD antigen CD98),FUNCTION: Acts as a chaperone that facilitates biogenesis and trafficking of functional transporters heterodimers to the plasma membrane. Forms heterodimer with SLC7 family transporters (SLC7A5, SLC7A6, SLC7A7, SLC7A8, SLC7A10 and SLC7A11), a group of amino-acid antiporters (PubMed:11557028, PubMed:9829974, PubMed:9751058, PubMed:9878049, PubMed:10574970, PubMed:10903140, PubMed:30867591, PubMed:33298890, PubMed:33758168, PubMed:34880232). Heterodimers function as amino acids exchangers, the specificity of the substrate depending on the SLC7A subunit. Heterodimers SLC3A2/SLC7A6 or SLC3A2/SLC7A7 mediate the uptake of dibasic amino acids (PubMed:9829974, PubMed:10903140). Heterodimer SLC3A2/SLC7A11 functions as an antiporter by mediating the exchange of extracellular anionic L-cystine and intracellular L-glutamate across the cellular plasma membrane (PubMed:34880232). SLC3A2/SLC7A10 translocates small neutral L- and D-amino acids across the plasma membrane (By similarity). SLC3A2/SLC75 or SLC3A2/SLC7A8 translocates neutral amino acids with broad specificity, thyroid hormones and L-DOPA (PubMed:11557028, PubMed:10574970, PubMed:11389679, PubMed:11564694, PubMed:11742812, PubMed:12117417, PubMed:12225859, PubMed:15980244, PubMed:12716892, PubMed:33298890, PubMed:33758168, PubMed:30867591). SLC3A2 is essential for plasma membrane localization, stability, and the transport activity of SLC7A5 and SLC7A8 (PubMed:10391915, PubMed:10574970, PubMed:11311135, PubMed:15769744, PubMed:33066406). When associated with LAPTM4B, the heterodimer SLC7A5 is recruited to lysosomes to promote leucine uptake into these organelles, and thereby mediates mTORC1

## Target Details

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activation (PubMed:25998567). Modulates integrin-related signaling and is essential for integrin-dependent cell spreading, migration and tumor progression (PubMed:15625115, PubMed:11121428). {ECO:0000250|UniProtKB:P63115, ECO:0000269|PubMed:10391915, ECO:0000269|PubMed:10574970, ECO:0000269|PubMed:10903140, ECO:0000269|PubMed:11121428, ECO:0000269|PubMed:11311135, ECO:0000269|PubMed:11389679, ECO:0000269|PubMed:11557028, ECO:0000269|PubMed:11564694, ECO:0000269|PubMed:11742812, ECO:0000269|PubMed:12117417, ECO:0000269|PubMed:12225859, ECO:0000269|PubMed:12716892, ECO:0000269|PubMed:15625115, ECO:0000269|PubMed:15769744, ECO:0000269|PubMed:15980244, ECO:0000269|PubMed:25998567, ECO:0000269|PubMed:30867591, ECO:0000269|PubMed:33066406, ECO:0000269|PubMed:33298890, ECO:0000269|PubMed:33758168, ECO:0000269|PubMed:34880232, ECO:0000269|PubMed:9751058, ECO:0000269|PubMed:9829974, ECO:0000269|PubMed:9878049},. FUNCTION: (Microbial infection) In case of hepatitis C virus/HCV infection, the complex formed by SLC3A2 and SLC7A5/LAT1 plays a role in HCV propagation by facilitating viral entry into host cell and increasing L-leucine uptake-mediated mTORC1 signaling activation, thereby contributing to HCV-mediated pathogenesis. {ECO:0000269|PubMed:30341327},. FUNCTION: (Microbial infection) Acts as a receptor for malaria parasite Plasmodium vivax (Thai isolate) in immature red blood cells. {ECO:0000269|PubMed:34294905}.

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Molecular Weight: 68.0 kDa

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UniProt: [P08195](#)

## 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.

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Comment: 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.

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## Application Details

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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

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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)

## Images

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