Datasheet for ABIN3114415

# SLC3A1 Protein (AA 1-685) (Strep Tag)

1 Image

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## Overview

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| Quantity: | 1 mg |
| Target: | SLC3A1 |
| Protein Characteristics: | AA 1-685 |
| Origin: | Human |
| Source: | Tobacco (Nicotiana tabacum) |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This SLC3A1 protein is labelled with Strep Tag. |
| Application: | ELISA, Western Blotting (WB), SDS-PAGE (SDS) |

## Product Details

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| Sequence: | MAEDKSKRDS IEMSMKGCQT NNGFVHNEDI LEQTPDPGSS TDNLKHSTRG ILGSQEPDFK GVQPYAGMPK EVLFQFSGQA RYRIPREILF WLTVASVLVL IAATIAIIAL SPKCLDWWQE GPMYQIYPRS FKDSNKDGNG DLKGIQDKLD YITALNIKTV WITSFYKSSL KDFRYGVEDF REVDPIFGTM EDFENLVAAI HDKGLKLIID FIPNHTSDKH IWFQLSRTRT GKYTDYYIWH DCTHENGKTI PPNNWLSVYG NSSWHFDEVR NQCYFHQFMK EQPDLNFRNP DVQEEIKEIL RFWLTKGVDG FSLDAVKFLL EAKHLRDEIQ VNKTQIPDTV TQYSELYHDF TTTQVGMHDI VRSFRQTMDQ YSTEPGRYRF MGTEAYAESI DRTVMYYGLP FIQEADFPFN NYLSMLDTVS GNSVYEVITS WMENMPEGKW PNWMIGGPDS SRLTSRLGNQ YVNVMNMLLF TLPGTPITYY GEEIGMGNIV AANLNESYDI NTLRSKSPMQ WDNSSNAGFS EASNTWLPTN SDYHTVNVDV QKTQPRSALK LYQDLSLLHA NELLLNRGWF CHLRNDSHYV VYTRELDGID RIFIVVLNFG ESTLLNLHNM ISGLPAKMRI RLSTNSADKG SKVDTSGIFL DKGEGLIFEH NTKNLLHRQT AFRDRCFVSN RACYSSVLNI LYTSC |

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| | **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:<br>• Made in Germany - from design to production - by highly experienced protein experts.<br>• Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.<br>• These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).<br>• State-of-the-art algorithm used for plasmid design (Gene synthesis).<br><br>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.<br>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.<br><br>Expression System:<br>• 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.<br>• 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!<br><br>Concentration:<br>• The concentration of our recombinant proteins is measured using the absorbance at 280nm.<br>• The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.<br>• We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein. |
| Purification: | Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®): |

## Product Details

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| | 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.<br>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. |
| 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

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| Target: | SLC3A1 |
| Alternative Name: | SLC3A1 (SLC3A1 Products) |
| Background: | Amino acid transporter heavy chain SLC3A1 (D2h) (Neutral and basic amino acid transport protein) (NBAT) (Solute carrier family 3 member 1) (b(0,+)-type amino acid transporter-related heavy chain) (rBAT),FUNCTION: Acts as a chaperone that facilitates biogenesis and trafficking of functional transporter heteromers to the plasma membrane (PubMed:16825196, PubMed:10588648, PubMed:32817565, PubMed:32494597, PubMed:11318953, PubMed:16609684, PubMed:8486766, PubMed:7686906, PubMed:8663184, PubMed:8663357) (By similarity). Associates with SLC7A9 to form a functional transporter complex that mediates the electrogenic exchange between cationic amino acids and neutral amino acids, with a stoichiometry of 1:1. SLC7A9-SLC3A1 transporter has system b(0,+)-like activity with high affinity for extracellular cationic amino acids and L-cystine and lower affinity for intracellular neutral amino acids. Substrate exchange is driven by high concentration of intracellular neutral amino acids and the intracellular reduction of L-cystine to L-cysteine. SLC7A9-SLC3A1 acts as a major transporter for reabsorption of L-cystine and dibasic amino acids across the brush border membrane in early proximal tubules (PubMed:10588648, PubMed:11318953, PubMed:16609684, PubMed:16825196, PubMed:32494597, PubMed:32817565, PubMed:7686906, PubMed:8486766, PubMed:8663184, PubMed:8663357). Associates with SLC7A13 to form a functional complex that transports anionic and neutral amino acids via exchange or facilitated diffusion. SLC7A13-SLC3A1 may act as a major transporter for L-cystine in late proximal tubules, ensuring its reabsorption from the luminal fluid in exchange for cytosolic L-glutamate or L-aspartate (By similarity). {ECO:0000250\|UniProtKB:Q91WV7, ECO:0000269\|PubMed:10588648, ECO:0000269\|PubMed:11318953, ECO:0000269\|PubMed:16609684, ECO:0000269\|PubMed:16825196, |

## Target Details

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| Molecular Weight: | 78.9 kDa |
| UniProt: | Q07837 |

## 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: | 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.<br>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

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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) |


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

 