

Datasheet for ABIN3109816
SLC22A1 Protein (AA 1-554) (Strep Tag)



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1 Image

Overview

Quantity:	1 mg
Target:	SLC22A1
Protein Characteristics:	AA 1-554
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This SLC22A1 protein is labelled with Strep Tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA

Product Details

Sequence: MPTVDDILEQ VGESGWFKQ AFLILCLLSA AFAPICVGIV FLGFTPDHHC QSPGVAELSQ
RCGWSPAEL NYTVPGLGPA GEAFGLQCRR YEVDWNQSAL SCVDPLASLA TNRSHLPLGP
CQDGWVYDTP GSSIVTEFNL VCADSWKLDL FQSCLNAGFL FGSLGVGYFA DRFGRKLCLL
GTVLVNAVSG VLMAFSPNYM SMLLFRLQGLVSKGNWMAG YTLITEFVGS GSRRTVAIMY
QMAFTVGLVA LTGLAYALPH WRWLQAVSL PTFLLLYYW CVPESPRWLL SQRNTEAIK
IMDHIAQKNG KLPPADLKML SLEEDVTEKL SPSFADLFRT PRLRKRTEFIL MYLWFTDSVL
YQGLILHMGA TSGNLYLDFL YSALVEIPGA FIALITIDRV GRIYPMAMSN LLAGAACLVM
IFISPDHLWL NIIIMCVGRM GITIAIQMIC LVNAELYPTF VRNLGVMVCS SLCDIGGIIT PFIVFRLREV
WQALPLILFA VLGLLAAGVT LLLPETKGVA LPETMKDAEN LGRKAKPKEN TIYLVKVTSE PSGT

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:

- 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.

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

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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

Target: SLC22A1

Alternative Name: SLC22A1 ([SLC22A1 Products](#))

Background: Solute carrier family 22 member 1 (Organic cation transporter 1) (hOCT1),FUNCTION: Electrogenic voltage-dependent transporter that mediates the transport of a variety of organic cations such as endogenous bioactive amines, cationic drugs and xenobiotics (PubMed:9260930, PubMed:9187257, PubMed:11388889, PubMed:9655880, PubMed:11408531, PubMed:15389554, PubMed:16263091, PubMed:16272756, PubMed:16581093, PubMed:19536068, PubMed:21128598, PubMed:23680637, PubMed:24961373, PubMed:34040533, PubMed:12439218, PubMed:12719534). Functions as a pH - and Na(+)-independent, bidirectional transporter (By similarity). Cation cellular uptake or release is driven by the electrochemical potential (i.e. membrane potential and concentration gradient) and substrate selectivity (By similarity). Hydrophobicity is a major requirement for recognition in polyvalent substrates and inhibitors (By similarity). Primarily expressed at the basolateral membrane of hepatocytes and proximal tubules and involved in the uptake and disposition of cationic compounds by hepatic and renal clearance from the blood flow (By similarity). Most likely functions as an uptake carrier in enterocytes contributing to the intestinal elimination of organic cations from the systemic circulation (PubMed:16263091). Transports endogenous monoamines such as N-1-methylnicotinamide (NMN), guanidine, histamine, neurotransmitters dopamine, serotonin and adrenaline (PubMed:9260930, PubMed:24961373, PubMed:35469921, PubMed:12439218). Also transports natural polyamines such as spermidine, agmatine and putrescine at low affinity, but relatively high turnover (PubMed:21128598). Involved in the hepatic uptake of vitamin B1/thiamine, hence regulating hepatic lipid and energy metabolism (PubMed:24961373). Mediates the bidirectional transport of acetylcholine (ACh) at the apical membrane of ciliated cell in airway epithelium, thereby playing a role in luminal release of ACh from bronchial epithelium (PubMed:15817714). Transports dopaminergic neuromodulators cyclo(his-pro) and salsolinol with lower efficiency (PubMed:17460754). Also capable of transporting non-amine endogenous compounds such as

Target Details

prostaglandin E2 (PGE2) and prostaglandin F2-alpha (PGF2-alpha) (PubMed:11907186). May contribute to the transport of cationic compounds in testes across the blood-testis-barrier (Probable). Also involved in the uptake of xenobiotics tributylmethylammonium (TBuMA), quinidine, N-methyl-quinine (NMQ), N-methyl-quinidine (NMQD) N-(4,4-azo-n-pentyl)-quinuclidine (APQ), azidoprocaïnamide methoïdide (AMP), N-(4,4-azo-n-pentyl)-21-deoxyajmalinium (APDA) and 4-(4-(dimethylamino)styryl)-N-methylpyridinium (ASP) (PubMed:9260930, PubMed:11408531, PubMed:15389554, PubMed:35469921).

{ECO:0000250|UniProtKB:O08966, ECO:0000250|UniProtKB:Q63089, ECO:0000269|PubMed:11388889, ECO:0000269|PubMed:11408531, ECO:0000269|PubMed:11907186, ECO:0000269|PubMed:12439218, ECO:0000269|PubMed:12719534, ECO:0000269|PubMed:15389554, ECO:0000269|PubMed:15817714, ECO:0000269|PubMed:16263091, ECO:0000269|PubMed:16272756, ECO:0000269|PubMed:16581093, ECO:0000269|PubMed:17460754, ECO:0000269|PubMed:19536068, ECO:0000269|PubMed:21128598, ECO:0000269|PubMed:23680637, ECO:0000269|PubMed:24961373, ECO:0000269|PubMed:34040533, ECO:0000269|PubMed:35469921, ECO:0000269|PubMed:9187257, ECO:0000269|PubMed:9260930, ECO:0000269|PubMed:9655880, ECO:0000305|PubMed:35307651}., FUNCTION: [Isoform 1]: Mediates the uptake of 1-methyl-4-phenylpyridinium (MPP(+)). {ECO:0000269|PubMed:11388889}., FUNCTION: [Isoform 2]: Not able to uptake 1-methyl-4-phenylpyridinium (MPP(+)). {ECO:0000269|PubMed:11388889}., FUNCTION: [Isoform 3]: Not able to uptake 1-methyl-4-phenylpyridinium (MPP(+)). {ECO:0000269|PubMed:11388889}., FUNCTION: [Isoform 4]: Not able to uptake 1-methyl-4-phenylpyridinium (MPP(+)). {ECO:0000269|PubMed:11388889}.

Molecular Weight: 61.2 kDa

UniProt: [O15245](#)

Pathways: [Hormone Transport](#)

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.

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Application Details

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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)

Images



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