Datasheet for ABIN3114031

SLC26A5 Protein (AA 1-744) (Strep Tag)

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Overview

Quantity:	250 µg
Target:	SLC26A5
Protein Characteristics:	AA 1-744
Origin:	Human
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This SLC26A5 protein is labelled with Strep Tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA

Product Details

Brand:	AliCE®
Sequence:	MDHAEENEIL AATQRYYVER PIFSHPVLQE RLHTKDKVPD SIADKLKQAF TCTPKKIRNI IYMFLPITKW LPAYKFKEYV LGDLVSGIST GVLQLPQGLA FAMLAAVPPI FGLYSSFYPV IMYCFLGTSR HISIGPFAVI SLMIGGVAVR LVPDDIVIPG GVNATNGTEA RDALRVKVAM SVTLLSGIIQ FCLGVCRFGF VAIYLTEPLV RGFTTAAAVH VFTSMLKYLF GVKTKRYSGI FSVVYSTVAV LQNVKNLNVC SLGVGLMVFG LLLGGKEFNE RFKEKLPAPI PLEFFAVVMG TGISAGFNLK ESYNVDVVGT LPLGLLPPAN PDTSLFHLVY VDAIAIAIVG FSVTISMAKT LANKHGYQVD GNQELIALGL CNSIGSLFQT FSISCSLSRS LVQEGTGGKT QLAGCLASLM ILLVILATGF LFESLPQAVL SAIVIVNLKG MFMQFSDLPF FWRTSKIELT IWLTTFVSSL FLGLDYGLIT AVIIALLTVI YRTQSPSYKV LGKLPETDVY IDIDAYEEVK EIPGIKIFQI NAPIYYANSD LYSNALKRKT GVNPAVIMGA RRKAMRKYAK EVGNANMANA TVVKADAEVD GEDATKPEEE DGEVKYPPIV IKSTFPEEMQ RFMPPGDNVH TVILDFTQVN FIDSVGVKTL AGIVKEYGDV

GIYVYLAGCS AQVVNDLTRN RFFENPALWE LLFHSIHDAV LGSQLREALA EQEASAPPSQ EDLEPNATPA TPEA

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 in one-step affinity chromatography
- 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 try to ensure that you receive soluble 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 against its specific reference buffer.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:

One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (AliCE®).

Product Details

Purity:	> 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).
Grade:	custom-made

Target Details

Target:	SLC26A5
Alternative Name:	SLC26A5 (SLC26A5 Products)
Background:	Prestin (Solute carrier family 26 member 5),FUNCTION: Voltage-sensitive motor protein that drives outer hair cell (OHC) electromotility (eM) and participates in sound amplification in the hearing organ (By similarity). Converts changes in the transmembrane electric potential into mechanical displacements resulting in the coupling of its expansion to movement of a charged voltage sensor across the lipid membrane (By similarity). The nature of the voltage sensor is not completely clear, and two models compete. In the first model, acts as an incomplete transporter where intracellular chloride anion acts as extrinsic voltage sensor that drives conformational change in the protein which is sufficient to produce a length change in the plane of the membrane and hence in the length of the OHC (By similarity). The second model in which multiple charged amino acid residues are distributed at the intracellular and extracellular membrane interfaces that form an intrinsic voltage sensor, whose movement produces the non-linear capacitance (NLC) (PubMed:34390643). However, the effective voltage sensor may be the result of a hybrid voltage sensor, assembled from intrinsic charge (charged residues) and extrinsic charge (bound anion) (By similarity). Notably, binding of anions to the anion-binding pocket partially neutralizes the intrinsic positive charge rather than to form an electrically negative sensor, therefore remaining charge may serve as voltage sensor that, after depolarization, moves from down (expanded state) to up (contracted) conformation, which is accompanied by an eccentric contraction of the intermembrane cross-sectional area of the protein as well as a major increase in the hydrophobic thickness of the protein having as consequences the plasma membrane thickening and the cell contraction after membrane depolarization (PubMed:34390643). The anion-binding pocket transits from the inward-open (Down) state, where it is exposed toward the intracellular solvent in the absence of anion, to the occluded (Up) state upon anion binding (PubMed:34390643). Salicylate competes for the anion-binding site and inhibits the voltage-sensor movement, and therefore inhibits the charge transfer and electromotility by displacing Cl(-) from the anion-binding site and by preventing the structural transitions to the contracted state (PubMed:34390643). In addition, can act as a weak Cl(-)/HCO3(-) antiporter across the cell membrane and so regulate the intracellular pH of the outer hair cells (OHCs), while firstly found as being unable to mediate electrogenic anion

Target Details

	transport (By similarity). Moreover, supports a role in cardiac mechanical amplification serving as an elastic element to enhance the actomyosin- based sarcomere contraction system (By similarity). {ECO:0000250|UniProtKB:D7PC76, ECO:0000250|UniProtKB:Q99NH7, ECO:0000250|UniProtKB:Q9EPH0, ECO:0000250|UniProtKB:Q9JKQ2, ECO:0000269|PubMed:34390643}.
Molecular Weight:	81.3 kDa
UniProt:	P58743
Pathways:	Sensory Perception of Sound, Dicarboxylic Acid 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.
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. 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. Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol **Might differ depending on protein.**
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.

Handling

Expiry Date:	12 months