Datasheet for ABIN3116758

TPCN2 Protein (AA 1-752) (Strep Tag)

1 Image

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Overview

Quantity:	1 mg
Target:	TPCN2
Protein Characteristics:	AA 1-752
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This TPCN2 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), ELISA, SDS-PAGE (SDS)

Product Details

Sequence:	MAEPQAESEP LLGGARGGGG DWPAGLTTYR SIQVGPGAAA RWDLCIDQAV VFIEDAIQYR SINHRVDASS MWLYRRYYSN VCQRTLSFTI FLILFLAFIE TPSSLTSTAD VRYRAAPWEP PCGLTESVEV LCLLVFAADL SVKGYLFGWA HFQKNLWLLG YLVVLVVSLV DWTVSLSLVC HEPLRIRRLL RPFFLLQNSS MMKKTLKCIR WSLPEMASVG LLLAIHLCLF TMFGMLLFAG GKQDDGQDRE RLTYFQNLPE SLTSLLVLLT TANNPDVMIP AYSKNRAYAI FFIVFTVIGS LFLMNLLTAI IYSQFRGYLM KSLQTSLFRR RLGTRAAFEV LSSMVGEGGA FPQAVGVKPQ NLLQVLQKVQ LDSSHKQAMM EKVRSYGSVL LSAEEFQKLF NELDRSVVKE HPPRPEYQSP FLQSAQFLFG HYYFDYLGNL IALANLVSIC VFLVLDADVL PAERDDFILG ILNCVFIVYY LLEMLLKVFA LGLRGYLSYP SNVFDGLLTV VLLVLEISTL AVYRLPHPGW RPEMVGLLSL WDMTRMLNML IVFRFLRIIP SMKLMAVVAS TVLGLVQNMR AFGGILVVVY YVFAIIGINL FRGVIVALPG NSSLAPANGS APCGSFEQLE YWANNFDDFA AALVTLWNLM VVNNWQVFLD AYRRYSGPWS KIYFVLWWLV SSVIWVNLFL ALILENFLHK WDPRSHLQPL AGTPEATYQM

	TVELLFRDIL EEPGEDELTE RLSQHPHLWL CR **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

Product Details

	(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.
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:	TPCN2
Alternative Name:	TPCN2 (TPCN2 Products)
Background:	Two pore channel protein 2 (Two pore calcium channel protein 2),FUNCTION: Intracellular channel initially characterized as a non-selective Ca(2+)-permeable channel activated by NAADP (nicotinic acid adenine dinucleotide phosphate), it is also a highly-selective Na(+) channel activated directly by PI(3,5)P2 (phosphatidylinositol 3,5-bisphosphate) (PubMed:19387438, PubMed:19620632, PubMed:20880839, PubMed:30860481, PubMed:32167471, PubMed:31825310, PubMed:23063126, PubMed:24776928, PubMed:23394946, PubMed:24502975). Localizes to the lysosomal and late endosome membranes where it regulates organellar membrane excitability, membrane trafficking, and pH homeostasis. Is associated with a plethora of physiological processes, including mTOR-dependent nutrient sensing, skin pigmentation and autophagy (PubMed:32167471, PubMed:23394946, PubMed:18488028). Ion selectivity is not fixed but rather agonist-dependent and under defined ionic conditions, can be readily activated by both NAADP and PI(3,5)P2 (PubMed:31825310, PubMed:32167471, PubMed:24502975). As calcium channel, it increases the pH in the lysosomal lumen, as sodium channel, it promotes lysosomal exocytosis (PubMed:31825310, PubMed:32167471). Plays a crucial role in endolysosomal trafficking in the endolysosomal degradation pathway and is potentially involved in the homeostatic control of many macromolecules and cell metabolites (By similarity) (PubMed:18488028, PubMed:19387438, PubMed:19620632, PubMed:20880839, PubMed:23063126, PubMed:23394946, PubMed:24502975, PubMed:24776928, PubMed:31825310, PubMed:32167471, PubMed:32679067). Also expressed in melanosomes of pigmented cells where mediates a Ca(2+) channel and/or PI(3,5)P2-activated melanosomal Na(+) channel to

Target Details

	acidify pH and inhibit tyrosinase activity required for melanogenesis and pigmentation (PubMed:27140606). Unlike the voltage-dependent TPCN1, TPCN2 is voltage independent and can be activated solely by PI(3,5)P2 binding. In contrast, PI(4,5)P2, PI(3,4)P2, PI(3)P and PI(5)P have no obvious effect on channel activation (PubMed:30860481). {ECO:0000250|UniProtKB:Q8BWC0, ECO:0000269|PubMed:18488028, ECO:0000269|PubMed:19387438, ECO:0000269|PubMed:19620632, ECO:0000269|PubMed:20880839, ECO:0000269|PubMed:23063126, ECO:0000269|PubMed:23394946, ECO:0000269|PubMed:24502975, ECO:0000269|PubMed:24776928, ECO:0000269|PubMed:27140606, ECO:0000269|PubMed:30860481, ECO:0000269|PubMed:31825310, ECO:0000269|PubMed:32167471, ECO:0000269|PubMed:32679067}., FUNCTION: (Microbial infection) During Ebola virus (EBOV) infection, controls the movement of endosomes containing virus particles and is required by EBOV to escape from the endosomal network into the cell cytoplasm. {ECO:0000269|PubMed:25722412}., FUNCTION: (Microbial infection) Required for cell entry of coronaviruses SARS-CoV and SARS-CoV-2, as well as human coronavirus EMC (HCoV-EMC), by endocytosis. {ECO:0000269|PubMed:32221306}.
Molecular Weight:	85.2 kDa
UniProt:	Q8NHX9

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. 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