Datasheet for ABIN3107999

CACFD1 Protein (AA 1-172) (Strep Tag)

1 Image

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Overview

Quantity:	1 mg
Target:	CACFD1
Protein Characteristics:	AA 1-172
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This CACFD1 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	MSSSGGAPGA SASSAPPAQE EGMTWWYRWL CRLSGVLGAV SCAISGLFNC ITIHPLNIAA GVWMIMNAFI LLLCEAPFCC QFIEFANTVA EKVDRLRSWQ KAVFYCGMAV VPIVISLTLT TLLGNAIAFA TGVLYGLSAL GKKGDAISYA RIQQQRQQAD EEKLAETLEG EL **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 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:	CACFD1
Alternative Name:	CACFD1 (CACFD1 Products)
Background:	Calcium channel flower homolog (Calcium channel flower domain-containing protein 1),FUNCTION: Transmembrane protein which mediates synaptic endocytosis and fitness-based cell culling (PubMed:31341286, PubMed:37348560). In response to different stimulus strengths, controls two major modes of synaptic vesicle (SV) retrieval in hippocampal neurons, Clathrin-mediated endocytosis (CME) in response to mild stimulation and activity-dependent bulk endocytosis (ADBE) in response to strong stimulation (By similarity). In cytotoxic T-lymphoocytes (CTLs) facilitates calcium-dependent endocytosis of cytotoxic granules at the immuno synapse (By similarity). Different isoforms work as fitness fingerprints in 'loser' and 'winner' cells and thereby mediate win/lose decisions as part of the cell competition process (PubMed:31341286). {ECO:0000250|UniProtKB:D4A9I3, ECO:0000250|UniProtKB:Q8BG21, ECO:0000269|PubMed:31341286, ECO:0000269|PubMed:37348560}., FUNCTION: [Isoform 1]: Functions with the other flower isoforms to produce tissue-specific fitness fingerprints that identify unfit or fit cells during cell selection processes in order to maintain tissue health (PubMed:31341286). During cell competition, if levels of this isoform in cells is higher than in the surrounding neighboring cells, the cells are recognized as 'winner' cells, and do not undergo elimination via apoptosis (PubMed:31341286). {ECO:0000269|PubMed:31341286}., FUNCTION: [Isoform 2]: Functions with the other flower isoforms to produce tissue-specific fitness fingerprints that identify unfit or fit cells during cell selection processes in order to maintain tissue health (PubMed:31341286). During cell competition, if levels of this isoform in unfit cells is higher than in the surrounding neighboring cells, the cells are recognized as 'loser' cells, and undergo elimination via apoptosis to be replaced by the surrounding healthy 'winner' cell population (PubMed:31341286). {ECO:0000269|PubMed:31341286}., FUNCTION: [Isoform 3]: Functions with the other flower isoforms to produce tissue-specific fitness fingerprints that identify unfit or fit cells during cell selection processes in order to maintain tissue health (PubMed:31341286). During cell competition, if levels of this isoform in unfit cells is higher than in the surrounding neighboring cells, the cells are recognized as 'loser' cells, and undergo elimination via apoptosis to be replaced by the surrounding healthy 'winner' cell population (PubMed:31341286). {ECO:0000269|PubMed:31341286}., FUNCTION: [Isoform 4]: Functions with the other flower isoforms to produce tissue-specific fitness fingerprints that identify unfit or fit cells during cell selection processes in order to maintain tissue health (PubMed:31341286). During cell competition, if levels of this isoform in cells is higher than in the surrounding neighboring cells, the cells are recognized as 'winner' cells, and do not undergo elimination via apoptosis (PubMed:31341286). {ECO:0000269|PubMed:31341286}.

Target Details

Molecular Weight:	18.5 kDa
UniProt:	Q9UGQ2

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)

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