

Datasheet for ABIN3116282

CALHM1 Protein (AA 1-346) (Strep Tag)



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1 Image

Overview

Quantity:	1 mg
Target:	CALHM1
Protein Characteristics:	AA 1-346
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This CALHM1 protein is labelled with Strep Tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB)

Product Details

Sequence: MMDKFRMIFQ FLQSNQESFM NGICGIMALA SAQMYSAFDF NCPCLPGYNA AYSAGILLAP
PLVLFLLGLV MNNNVSMMLAE EWKRPLGRRR KDPVLLRYMF CSMAQRALIA PVVWVAVTLL
DGKCFLLCAFC TAVPVLSALGN GSLAPGLPAP ELARLLARVP CPEIYDGDWL LAREVAVRYL
RCISQALGWS FVLLTLLAF VVRSVRPCFT QAAFLKSKYW SHYIDIERKL FDETCTEHAH
AFAKVCIQQF FEAMNHDLEL GHTHGLATA PASAAAPTTP DGAEEREKRL RGITDQGTMN
RLLTSWHKCK PPLRLGQEEP PLMGNGWAGG GPRPPRKEVA TYFSKV

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: <ul style="list-style-type: none">• 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
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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.

Product Details

Endotoxin Level: Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)

Grade: Crystallography grade

Target Details

Target: CALHM1

Alternative Name: CALHM1 ([CALHM1 Products](#))

Background: Calcium homeostasis modulator protein 1 (Protein FAM26C),FUNCTION: Pore-forming subunit of a voltage-gated ion channel required for sensory perception of sweet, bitter and umami tastes (By similarity). Specifically present in type II taste bud cells, where it plays a central role in sweet, bitter and umami taste perception by inducing ATP release from the cell, ATP acting as a neurotransmitter to activate afferent neural gustatory pathways (By similarity). Together with CALHM3, forms a fast-activating voltage-gated ATP-release channel in type II taste bud cells (TBCs) (By similarity). Acts both as a voltage-gated and calcium-activated ion channel: mediates neuronal excitability in response to changes in extracellular Ca(2+) concentration (PubMed:22711817, PubMed:23300080). Has poor ion selectivity and forms a wide pore (around 14 Angstroms) that mediates permeation of Ca(2+), Na(+) and K(+), as well as permeation of monovalent anions (PubMed:22711817). Acts as an activator of the ERK1 and ERK2 cascade (PubMed:23345406). Triggers endoplasmic reticulum stress by reducing the calcium content of the endoplasmic reticulum (PubMed:21574960). May indirectly control amyloid precursor protein (APP) proteolysis and aggregated amyloid-beta (Abeta) peptides levels in a Ca(2+) dependent manner (PubMed:18585350). {ECO:0000250|UniProtKB:D3Z291, ECO:0000269|PubMed:18585350, ECO:0000269|PubMed:21574960, ECO:0000269|PubMed:22711817, ECO:0000269|PubMed:23300080, ECO:0000269|PubMed:23345406}.

Molecular Weight: 38.3 kDa

UniProt: [Q8IU99](#)

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

Application Details

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