Datasheet for ABIN3117723

Junctophilin 2 Protein (JPH2) (AA 1-696) (Strep Tag)

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Overview

Quantity:	1 mg
Target:	Junctophilin 2 (JPH2)
Protein Characteristics:	AA 1-696
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This Junctophilin 2 protein is labelled with Strep Tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA

Product Details

Sequence:	MSGGRFDFDD GGAYCGGWEG GKAHGHGLCT GPKGQGEYSG SWNFGFEVAG VYTWPSGNTF EGYWSQGKRH GLGIETKGRW LYKGEWTHGF KGRYGIRQSS SSGAKYEGTW NNGLQDGYGT ETYADGGTYQ GQFTNGMRHG YGVRQSVPYG MAVVVRSPLR TSLSSLRSEH SNGTVAPDSP ASPASDGPAL PSPAIPRGGF ALSLLANAEA AARAPKGGGL FQRGALLGKL RRAESRTSVG SQRSRVSFLK SDLSSGASDA ASTASLGEAA EGADEAAPFE ADIDATTTET YMGEWKNDKR SGFGVSERSS GLRYEGEWLD NLRHGYGCTT LPDGHREEGK YRHNVLVKDT KRRMLQLKSN KVRQKVEHSV EGAQRAAAIA RQKAEIAASR TSHAKAKAEA AEQAALAANQ ESNIARTLAR ELAPDFYQPG PEYQKRRLLQ EILENSESLL EPPDRGAGAA GLPQPPRESP QLHERETPRP EGGSPSPAGT PPQPKRPRPG VSKDGLLSPG AWNGEPSGEG SRSVTPSEGA GRRSPARPAT ERMAIEALQA PPAPSREPEV ALYQGYHSYA VRTTPPEPPP FEDQPEPEVS GSESAPSSPA TAPLQAPTLR GPEPARETPA KLEPKPIIPK AEPRAKARKT EARGLTKAGA KKKARKEAAL AAEAEVEVEE VPNTILICMV ILLNIGLAIL FVHLLT

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®):

Product Details

	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:	Junctophilin 2 (JPH2)
Alternative Name:	JPH2 (JPH2 Products)
Background:	Junctophilin-2 (JP-2) (Junctophilin type 2) [Cleaved into: Junctophilin-2 N-terminal fragment (JP2NT)],FUNCTION: [Junctophilin-2]: Membrane-binding protein that provides a structural bridge between the plasma membrane and the sarcoplasmic reticulum and is required for normal excitation-contraction coupling in cardiomyocytes (PubMed:20095964). Provides a structural foundation for functional cross-talk between the cell surface and intracellular Ca(2+) release channels by maintaining the 12-15 nm gap between the sarcolemma and the sarcoplasmic reticulum membranes in the cardiac dyads (By similarity). Necessary for proper intracellular Ca(2+) signaling in cardiac myocytes via its involvement in ryanodine receptor-mediated calcium ion release (By similarity). Contributes to the construction of skeletal muscle triad junctions (By similarity). {ECO:0000250|UniProtKB:Q9ET78, ECO:0000269|PubMed:20095964}., FUNCTION: [Junctophilin-2 N-terminal fragment]: Transcription repressor required to safeguard against the deleterious effects of cardiac stress. Generated following cleavage of the Junctophilin-2 chain by calpain in response to cardiac stress in cardiomyocytes. Following cleavage and release from the membrane, translocates to the nucleus, binds DNA and represses expression of genes implicated in cell growth and differentiation, hypertrophy, inflammation and fibrosis. Modifies the transcription profile and thereby attenuates pathological remodeling in response to cardiac stress. Probably acts by competing with MEF2 transcription factors and TATA-binding proteins. {ECO:0000250|UniProtKB:Q9ET78}.
Molecular Weight:	74.2 kDa
UniProt:	Q9BR39

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

