

Datasheet for ABIN3137247

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



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Overview

Quantity:	250 µg
Target:	Junctophilin 2 (JPH2)
Protein Characteristics:	AA 1-696
Origin:	Mouse
Source:	Cell-free protein synthesis (CFPS)
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

Brand:	AliCE®
Sequence:	<p>MSGGRFDFDD GGAYCGGWEG GKAHGHGLCT GPKGQGEYSG SWNFGFEVAG VYTWPSGNTF</p> <p>EGYWSQGKRH GLGIETKGRW LYKGEWTHGF KGRYGIRQST NSGAKYEGTW NNGLQDGYGT</p> <p>ETYADGGTYQ GQFTNGMRHG YGVRQSVPYG MAVVVRSPLR TSLSSLRSEH SNGTVAPDSP</p> <p>AADGPMLPSP PVPRGGFALT LLATAEAARP QGLFTRGTLL GRLRRSESRT SLGSQRSRLS</p> <p>FLKSELSSGA SDAASTGSLA EGAEGPDDAA APFDADIDAT TTETYMGGEWK NDKRSGFGVS</p> <p>ERSSGLRYEG EWLDNLRHGY GRTTLPDGHR EEGKYRHNVL VKGTRRRVLP LKSSKVRQKV</p> <p>EHGVEGAQRA AAIARQKAEI AASRTSHAKA KAEAAEQAL AANQESNIAR TLAKELAPDF</p> <p>YQPGPEYQKR RLLQEILENS ESLEPPERG LGTGLPERPR ESPQLHERET PQPEGGPPSP</p> <p>AGTPPQPKRP RPGASKDGLL SPGSWNGEPG GEGSRPATPS DGAGRSPAR PASEHMAIEA</p> <p>LQPPPAPSQE PEVAMYRGYH SYAVRTGPPE PPPEDEQEP EPEPEPEVRR SDSAPPSPVS</p> <p>ATVPEEEPPA PRSPVPAKQA TLEPKPIVPK AEPKAKARKT EARGLSKAGA KKKGRKEVAQ</p>

AKEAEVEVEE VPNTVLICMV 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 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: 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:10949023, PubMed:19095005, PubMed:21339484). 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 (PubMed:10949023, PubMed:19095005, PubMed:21339484). Necessary for proper intracellular Ca(2+) signaling in cardiac myocytes via its involvement in ryanodine receptor-mediated calcium ion release (PubMed:10949023, PubMed:19095005, PubMed:21339484). Contributes to the construction of skeletal muscle triad junctions (PubMed:10949023). {ECO:0000269|PubMed:10949023, ECO:0000269|PubMed:19095005, ECO:0000269|PubMed:21339484}., FUNCTION: [Junctophilin-2 N-terminal fragment]: Transcription repressor required to safeguard against the deleterious effects of cardiac stress (PubMed:30409805). Generated following cleavage of the Junctophilin-2 chain by calpain in response to cardiac stress in cardiomyocytes (PubMed:30409805). 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 (PubMed:30409805). Modifies the transcription profile and thereby attenuates pathological remodeling in response to cardiac stress (PubMed:30409805). Probably acts by competing with MEF2 transcription factors and TATA-binding proteins (PubMed:30409805). {ECO:0000269|PubMed:30409805}.

Molecular Weight: 74.7 kDa

UniProt: [Q9ET78](#)

Application Details

Application Notes: In addition to the applications listed above we expect the protein to work for functional studies

Application Details

as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.

Comment:

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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.

Expiry Date:

12 months