Datasheet for ABIN3131512

# SH2D1B Protein (AA 1-132) (Strep Tag)

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## Overview

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| Quantity: | 1 mg |
| Target: | SH2D1B |
| Protein Characteristics: | AA 1-132 |
| Origin: | Mouse |
| Source: | Tobacco (Nicotiana tabacum) |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This SH2D1B protein is labelled with Strep Tag. |
| Application: | ELISA, Western Blotting (WB), SDS-PAGE (SDS) |

## Product Details

Sequence: MDLPYYHGCL TKRECEALLL KGGVDGNFLI RDSESVPGAL CLCVSFKKLV YSYRIFREKH GYYRIETDAH TPRTIFPNLQ ELVSKYGKPG QGLVVHLSNP IMRNNLCQRG RRMELELNVY ENTDEEYVDV LP

**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.

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| Purification: | Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):<br>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.<br>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) |

## Target Details

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| Target: | SH2D1B |
| Alternative Name: | Sh2d1b (SH2D1B Products) |
| Background: | SH2 domain-containing protein 1B (EWS/FLI1-activated transcript 2) (EAT-2),FUNCTION: Cytoplasmic adapter regulating receptors of the signaling lymphocytic activation molecule (SLAM) family such as CD84, SLAMF1, LY9 and CD244. In SLAM signaling seems to cooperate with SH2D1A/SAP. Plays a role in regulation of effector functions of natural killer (NK) cells by controlling signal transduction through CD244/2B4. However, conflicting results are reported which may reflect the use of different strain backgrounds. Proposed to act as an inhibitor of CD244-mediated NK cell function including cytotoxicity and IFN-gamma production, the latter found also by triggering KLRA4 and KLRK1 next to CD244 (PubMed:16127454). Seems to positively regulate CD244- and CD84-dependent NK cell functions implicating CD244-mediated phosphorylation of VAV1. Activation of SLAMF7-mediated NK cell function does not effect receptor tyrosine phosphorylation but distal signaling (PubMed:19151721, PubMed:20962259, PubMed:24687958). In the context of NK cell-mediated cytotoxicity does not enhance conjugate formation with target cells but stimulates polarization of the microtubule-organizing center and cytotoxic granules toward the NK cell synapse (PubMed:24687958). Negatively regulates CD40-induced cytokine production in dendritic cells downstream of SLAM family receptors probably by inducing activation of the PI3K pathway to inhibit p38 MAPK and JNK activation (PubMed:26432891). {ECO:0000250\|UniProtKB:O14796, ECO:0000269\|PubMed:16127454, ECO:0000269\|PubMed:19151721, ECO:0000269\|PubMed:20962259, ECO:0000269\|PubMed:24687958, ECO:0000269\|PubMed:26432891}. |
| Molecular Weight: | 15.3 kDa |
| UniProt: | O35324 |
| Pathways: | Regulation of Leukocyte Mediated Immunity, Positive Regulation of Immune Effector Process |

## Application Details

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| 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 |

## Application Details

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| | modifications.<br>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

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| 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) |