Datasheet for ABIN3137153

# NMNAT1 Protein (AA 1-285) (Strep Tag)

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## Overview

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| Quantity: | 1 mg |
| Target: | NMNAT1 |
| Protein Characteristics: | AA 1-285 |
| Origin: | Mouse |
| Source: | Tobacco (Nicotiana tabacum) |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This NMNAT1 protein is labelled with Strep Tag. |
| Application: | SDS-PAGE (SDS), ELISA, Western Blotting (WB) |

## Product Details

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| Sequence: | MDSSKKTEVV LLACGSFNPI TNMHLRLFEL AKDYMHATGK YSVIKGIISP VGDAYKKKGL IPAHHRIIMA ELATKNSHWV EVDTWESLQK EWVETVKVLR YHQEKLATGS CSYPQSSPAL EKPGRKRKWA DQKQDSSPQK PQEPKPTGVP KVKLLCGADL LESFSVPNLW KMEDITQIVA NFGLICITRA GSDAQKFIYE SDVLWRHQSN IHLVNEWITN DISSTKIRRA LRRGQSIRYL VPDLVQEYIE KHELYNTESE GRNAGVTLAP LQRNAAEAKH NHSTL<br>**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:<br>• Made in Germany - from design to production - by highly experienced protein experts.<br>• Protein expressed with ALiCE® and purified in one-step affinity chromatography<br>• 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.

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| Purification: | One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (AliCE®). |
| Purity: | > 80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC). |

## Target Details

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| Target: | NMNAT1 |
| Alternative Name: | Nmnat1 (NMNAT1 Products) |
| Background: | Nicotinamide/nicotinic acid mononucleotide adenylyltransferase 1 (NMN/NaMN adenylyltransferase 1) (EC 2.7.7.1) (EC 2.7.7.18) (Nicotinamide mononucleotide |

## Target Details

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| | adenylyltransferase 1) (NMN adenylyltransferase 1) (Nicotinate-nucleotide adenylyltransferase 1) (NaMN adenylyltransferase 1),FUNCTION: Catalyzes the formation of NAD(+) from nicotinamide mononucleotide (NMN) and ATP (PubMed:15381699, PubMed:27735788). Can also use the deamidated form, nicotinic acid mononucleotide (NaMN) as substrate with the same efficiency (By similarity). Can use triazofurin monophosphate (TrMP) as substrate (By similarity). Also catalyzes the reverse reaction, i.e. the pyrophosphorolytic cleavage of NAD(+) (By similarity). For the pyrophosphorolytic activity, prefers NAD(+) and NaAD as substrates and degrades NADH, nicotinic acid adenine dinucleotide phosphate (NHD) and nicotinamide guanine dinucleotide (NGD) less effectively (By similarity). Involved in the synthesis of ATP in the nucleus, together with PARP1, PARG and NUDT5 (By similarity). Nuclear ATP generation is required for extensive chromatin remodeling events that are energy-consuming (By similarity). Fails to cleave phosphorylated dinucleotides NADP(+), NADPH and NaADP(+) (By similarity). Also acts as a cofactor for glutamate and aspartate ADP-ribosylation by directing PARP1 catalytic activity to glutamate and aspartate residues on histones (PubMed:32822587). Protects against axonal degeneration following mechanical or toxic insults (PubMed:15310905, PubMed:16914673). Delays axonal degeneration after axotomy. Results in a >10-fold increase in intact neurites 72 hours after injury (PubMed:16914673, PubMed:27735788). {ECO:0000250\|UniProtKB:Q9HAN9, ECO:0000269\|PubMed:15310905, ECO:0000269\|PubMed:15381699, ECO:0000269\|PubMed:16914673, ECO:0000269\|PubMed:27735788, ECO:0000269\|PubMed:32822587}. |
| Molecular Weight: | 32.4 kDa |
| UniProt: | Q9EPA7 |

## 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 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 |

## Application Details

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| | 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) |