

# Recombinant human NMNAT-1 protein

Catalog Number: ATGP3194

## PRODUCT INFORMATION

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### Expression system

E.coli

### Domain

1-279aa

### UniProt No.

Q9HAN9

### NCBI Accession No.

NP\_073624

### Alternative Names

Nicotinamide nucleotide adenylyltransferase 1, Nicotinamide/nicotinic acid mononucleotide adenylyltransferase 1, NMN/NaMN adenylyltransferase 1, Nicotinamide nucleotide adenylyltransferase, Leber's congenital amaurosis 9, LCA9, PNAT1, NMNAT

## PRODUCT SPECIFICATION

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### Molecular Weight

36.0 kDa (315aa) confirmed by MALDI-TOF

### Concentration

1mg/ml (determined by Bradford assay)

### Formulation

Liquid in. 20mM Tris-HCl buffer (pH 8.0) containing 20% glycerol, 0.1M NaCl, 1mM DTT 1mM EDTA

### Purity

> 95% by SDS-PAGE

### Biological Activity

Specific activity is > 7,000pmol/min/ug, and was obtained by measuring the beta-NAD from nicotinamide mononucleotide and ATP per minute at pH 8.0 at 37C.

### Tag

His-Tag

### Application

SDS-PAGE, Enzyme Activity

### Storage Condition

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

## BACKGROUND

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### Description

NMNAT1, also known as NMNAT or PNAT1, is a central enzyme in NAD biosynthesis, catalyzing the condensation

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of nicotinamide mononucleotide (NMN) or nicotinic acid mononucleotide (NaMN) with the AMP moiety of ATP to form NAD or NaAD. It is widely expressed with high levels in skeletal muscle, heart, liver and kidney. This protein appears to have the ability to protect against axonal degeneration following mechanical or toxic insults.

Recombinant human NMNAT1 protein, fused to His-tag at N-terminus, was expressed in *E. coli* and purified by using conventional chromatography techniques.

## Amino acid Sequence

<MRGSHHHHHH GMASMTGGQQ MGRDLYDDDD KDRWGS>MENS EKTEVLLAC GSFNPITNMH LRLFELAKDY  
MNGTGRYTVV KGIISPVGDA YKKKGLIPAY HRVIMAEALAT KNSKWVEVDT WESLQKEWKE TLKVLRRHHQE KLEASDCDHQ  
QNSPTLERPG RKRKWTETQD SSQKKSLEPK TKAVPKVKLL CGADLLESFA VPNLWKSEDI TQIVANYGLI CVTRAGNDAQ  
KFIYESDVLW KHRSNIHVVN EWIANDISST KIRRALRRGQ SIRYLVPDLV QEYIEKHNLV SSESEDRNAG VILAPLQRNT AEAK

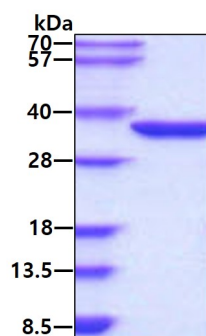
## General References

Emanuelli M. et al. (2001) *J Biol Chem.* 276(1):406-12.

Zhou T., et al. (2002) *J Biol Chem.* 277(15):13148-54.

## DATA

### SDS-PAGE



3 $\mu$ g by SDS-PAGE under reducing condition and visualized by coomassie blue stain.