## NMNAT3 (human), (recombinant) (Histag)

Nicotinamide mononucleotide adenyltransferase (NMNAT) catalyzes the formation of nicotinamide adenine dinucleotide (NAD) from nicotinamide mononucleotide (NMN) and ATP. Three NMNAT isoforms (NMNAT 1-3) have been identified with different kinetic parameters and cellular localizations. In humans, NMNAT1 is widely expressed in all tissues, while NMNAT2 and NMNAT3 show a tissue-specific expression and whose mRNA levels are generally lower compared to NMNAT1. NMNAT3 is more strongly expressed in tissues where NMNAT2 is almost absent. While NMNAT1 protein is localized in the nucleus, and NMNAT2 protein is localized in the cytosol, golgi apparatus and endoplasmic reticulum specifically, the NMNAT3 protein is localized in the mitochondria and less is known about it. Human NMNAT3 amino acid sequence is 50% identical to NMNAT1 and 34% identical to NMNAT2. Even though the 3D structure of the NMNAT3 monomer is almost identical to NMNAT1, NMNAT3 forms a tetramer while NMNAT1 forms a hexamer. It has been suggested that NMNAT2 forms a homodimer. The enzyme could be a potential target for therapeutical applications, because its activity is rather low in tumor cells.

Citations: 2

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**Ordering Information** 

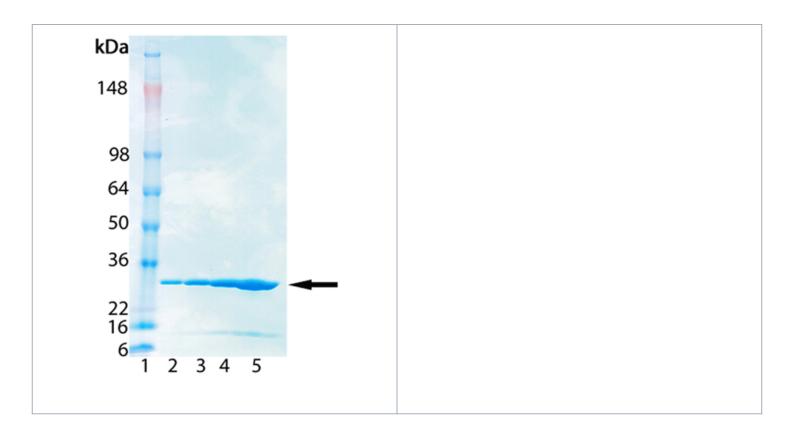
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ALX-201-238-C100

100µg

Manuals, SDS & CofA

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## **Handling & Storage**

**Handling** Avoid freeze/thaw cycles.

Long Term Storage -80°C

Shipping Blue Ice

## Regulatory Status RUO - Research Use Only

## **Product Details**

Alternative Name Nicotinamide mononucleotide adenylyltransferase 3, NMN

adenylyltransferase 3

Application Notes Well suited for the synthesis of NAD analogs due to lower

substrate selectivity compared to NMNAT1 (human)

(recombinant) (Prod. No. ALX-201-237).

Formulation Liquid. In 50mM TRIS-HCl, pH 8.0, containing 300mM

sodium chloride, 1mM DTT and 10% glycerol.

MW 29kDa (monomer)

Purity ≥95% (SDS-PAGE)

**Source** Produced in *E. coli*. Full length human NMNAT3 is fused at

the N-terminus to a His-tag.

Specific Activity ≥2 U/mg. One U=1 μmol/min at 30°C. One unit will

catalyze the formation of NAD<sup>+</sup> from nicotinamide

mononucleotide (NMN) and ATP.

UniProt ID Q96T66

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ENZO LIFE SCIENCES, INC. Phone: 800.942.0430 infousa@enzolifesciences.com European Sales Office ENZO LIFE SCIENCES (ELS) AG Phone: +41 61 926 8989 infoeu@enzolifesciences.com Belgium, The Netherlands & Luxembourg Phone: +32 3 466 0420 infobe@enzolifesciences.com

France
Phone: +33 472 440 655
infofr@enzolifesciences.com

Germany Phone: +49 7621 5500 526 infode@enzolifesciences.com UK & Ireland
Phone (UK customers):
0845 601 1488
Phone: +44 1392 825900
infouk@enzolifesciences.com