

NMNAT3, human recombinant

CATALOG #: 7562-10 10 µg
7562-50 50 µg

ALTERNATE NAMES: Nicotinamide Mononucleotide Adenylyltransferase 3; NMN Adenylyltransferase 3; NaMN Adenylyltransferase 3; EC 2.7.7.18; EC 2.7.7.1

SOURCE: E. Coli

PURITY: ≥ 95% by SDS-PAGE gel

MOL. WEIGHT: ~27.0 kDa (monomer). Human full-length NMNAT3 (aa 1-252) is fused at the N-terminus to a His-tag.

ENDOTOXIN LEVEL: N/A.

FORM: Liquid

FORMULATION: 1 mg/ml in 50 mM sodium phosphate, pH 8.0 containing 300 mM sodium chloride, 1 mM DTT and 10% glycerol.

STORAGE CONDITIONS: Prepare aliquots and store at -20°C. Avoid repeated freeze/thaw cycles.

DESCRIPTION: This is the Mitochondrial NMNAT isoform. It catalyzes the formation of NAD⁺ from nicotinamide mononucleotide (NMN) and ATP. It can also use the deamidated form of nicotinic acid mononucleotide (NAMN) as substrate with the same efficiency. It can use tiazofurin monophosphate as substrate. It can also use GTP and ITP as nucleotide donors. Also catalyzes the reverse reaction, i.e. the pyrophosphorolytic cleavage of NAD⁺. For the pyrophosphorolytic activity, mitochondrial NMNAT isoform can use NAD (+), NADH, NAAD, nicotinic acid adenine dinucleotide phosphate (NADP), nicotinamide guanine dinucleotide (NMGD)

as substrates. It fails to cleave phosphorylated dinucleotides NADP⁺, NADPH and NAADP⁺. It protects against axonal degeneration following injury.

BIOLOGICAL ACTIVITY: ≥ 2U/mg protein. One unit is defined as the amount of enzyme that synthesizes 1 µmol of NAD⁺ per min.

APPLICATION: Well suited for the synthesis of NAD analogs due to lower substrate selectivity compared to NMNAT1 (Cat # 7561-10, -50). For NAD synthesis use NMNAT1 (Cat # 7561-10, -50).

RELATED PRODUCTS:

- NMNAT1, human recombinant (**Cat. No. 7561-10, -50**)
- NAD/NADH Quantitation Colorimetric Kit (**Cat. No. K337-100**)
- NADP/NADPH Quantitation Colorimetric Kit (**Cat. No. K347-100**)
- PicoProbe™ NADH Fluorometric Assay Kit (**Cat. No. K338-100**)
- PicoProbe™ NADPH Quantitation Fluorometric Assay Kit (**Cat. No. K349-100**)
- NAD Kinase (catalytic domain), human recombinant (**Cat. No. 7559-10**)
- NAD Kinase, human recombinant (**Cat. No. 7560-10**)

FOR RESEARCH USE ONLY! Not to be used in humans.