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NMNAT1 Blocking Peptide (C-Term)

Synthetic peptide
Catalog # BP21921b

Specification

NMNAT1 Blocking Peptide (C-Term) - Product Information

Primary Accession	Q9HAN9
Other Accession	Q0VD50

NMNAT1 Blocking Peptide (C-Term) - Additional Information

Gene ID 64802

Other Names
Nicotinamide mononucleotide adenylyltransferase 1, NMN adenylyltransferase 1, 2.7.7.1, Nicotinate-nucleotide adenylyltransferase 1, NaMN adenylyltransferase 1, 2.7.7.18, NMNAT1, NMNAT

Target/Specificity
The synthetic peptide sequence is selected from aa 191-201 of HUMAN NMNAT1

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

NMNAT1 Blocking Peptide (C-Term) - Protein Information

Name NMNAT1 (HGNC:17877)

Synonyms NMNAT

Function
Catalyzes the formation of NAD(+) from nicotinamide mononucleotide (NMN) and ATP (PubMed:17402747). Can also use the deamidated form; nicotinic acid mononucleotide (NaMN) as substrate with the same efficiency (PubMed:17402747). Can use triazofurin monophosphate (TrMP) as substrate (PubMed:17402747). Also catalyzes the reverse reaction, i.e. the pyrophosphorolytic cleavage of NAD(+) (PubMed:17402747). 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 (PubMed:17402747). Involved in the synthesis of ATP in the nucleus, together with PARP1, PARG and NUDT5 (PubMed:27257257). Nuclear ATP generation is required for extensive chromatin remodeling events that are energy-consuming (PubMed:27257257). Also acts as a cofactor for glutamate and aspartate ADP-ribosylation by directing PARP1 catalytic activity to glutamate and aspartate residues on histones (By similarity). Fails to cleave phosphorylated dinucleotides NADP(+), NADPH and NaADP(+) (PubMed:17402747). Protects against axonal degeneration following mechanical or toxic insults (By similarity).

Cellular Location
Nucleus

Tissue Location
Widely expressed with highest levels in skeletal muscle, heart and kidney. Also expressed in the liver pancreas and placenta. Widely expressed throughout the brain

NMNAT1 Blocking Peptide (C-Term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

NMNAT1 Blocking Peptide (C-Term) - Images

NMNAT1 Blocking Peptide (C-Term) - Background

Catalyzes the formation of NAD(+) from nicotinamide mononucleotide (NMN) and ATP. Can also use the deamidated form; nicotinic acid mononucleotide (NaMN) as substrate with the same efficiency. Can use triazofurin monophosphate (TrMP) as substrate. Also catalyzes the reverse reaction, i.e. the pyrophosphorolytic cleavage of NAD(+). 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. Fails to cleave phosphorylated dinucleotides NADP(+), NADPH and NAADP(+). Protects against axonal degeneration following mechanical or toxic insults.

NMNAT1 Blocking Peptide (C-Term) - References

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Emanuelli M.,et al.J. Biol. Chem. 276:406-412(2001).
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