

**NMNAT1 Blocking Peptide (C-Term)**

Synthetic peptide

Catalog # BP21922b

**Specification**

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**NMNAT1 Blocking Peptide (C-Term) - Product Information**

Primary Accession

[Q9HAN9](#)

Other Accession

[Q0VD50](#), [Q9EPA7](#)**NMNAT1 Blocking Peptide (C-Term) - Additional Information**

Gene ID 64802

**Other Names**

Nicotinamide mononucleotide adenyltransferase 1, NMN adenyltransferase 1, 2.7.7.1, Nicotinate-nucleotide adenyltransferase 1, NaMN adenyltransferase 1, 2.7.7.18, NMNAT1, NMNAT

**Target/Specificity**

The synthetic peptide sequence is selected from aa 220-232 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:<a href="http://www.uniprot.org/citations/17402747" target="\_blank">17402747</a>). Can also use the deamidated form; nicotinic acid mononucleotide (NaMN) as substrate with the same efficiency (PubMed:<a href="http://www.uniprot.org/citations/17402747" target="\_blank">17402747</a>). Can use triazofurin monophosphate (TrMP) as substrate (PubMed:<a href="http://www.uniprot.org/citations/17402747" target="\_blank">17402747</a>). Also catalyzes the reverse reaction, i.e. the pyrophosphorolytic cleavage of NAD(+) (PubMed:<a href="http://www.uniprot.org/citations/17402747" target="\_blank">17402747</a>). 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:<a href="http://www.uniprot.org/citations/17402747" target="\_blank">17402747</a>). Involved in the synthesis of ATP in the nucleus, together with PARP1, PARG and NUDT5 (PubMed:<a href="http://www.uniprot.org/citations/27257257" target="\_blank">27257257</a>). Nuclear ATP generation is required for extensive chromatin remodeling events that are energy-consuming (PubMed:<a href="http://www.uniprot.org/citations/27257257" target="\_blank">27257257</a>). 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:<a href="http://www.uniprot.org/citations/17402747" target="\_blank">17402747</a>). Protects against axonal degeneration following mechanical or toxic insults (By similarity). Neural protection does not correlate with cellular NAD(+) levels but may still require enzyme activity (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**

Schweiger M.,et al.FEBS Lett. 492:95-100(2001).  
Emanuelli M.,et al.J. Biol. Chem. 276:406-412(2001).  
Fernando F.S.,et al.Gene 284:23-29(2002).  
Ota T.,et al.Nat. Genet. 36:40-45(2004).  
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