

PRODUCT INFORMATION



β-Nicotinamide Mononucleotide

Item No. 16411

CAS Registry No.: 1094-61-7
Formal Name: 3-(aminocarbonyl)-1-(5-O-phosphono-β-D-ribofuranosyl)-pyridinium, inner salt

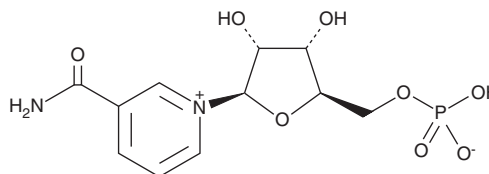
Synonym: β-NMN
MF: C₁₁H₁₅N₂O₈P
FW: 334.2
Purity: ≥95%

UV/Vis.: λ_{max}: 210, 265 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

β-Nicotinamide mononucleotide (β-NMN) is supplied as a crystalline solid. Aqueous solutions of β-NMN can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of β-NMN in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

β-NMN is an intermediate in the biosynthesis of nicotinamide adenine dinucleotide (NAD⁺; Item No. 16077). Nicotinamide phosphoribosyltransferase (Nampt) catalyzes the condensation of nicotinamide with 5-phosphoribosyl-1-pyrophosphate to generate β-NMN, which is subsequently converted to NAD⁺ by β-NMN adenylyltransferase.¹ At 50-100 μM, β-NMN has been used to enhance NAD biosynthesis and glucose-stimulated insulin secretion in a Nampt^{+/-} mouse model of metabolic disease, demonstrating a role for Nampt in β cell function.² Furthermore, at 500 mg/kg/day, it has been shown to ameliorate glucose intolerance in high-fat diet-induced type 2 diabetes mice by restoring NAD⁺ levels.³

References

1. Gallí, M., Van Gool, F., Rongvaux, A., *et al.* The nicotinamide phosphoribosyltransferase: A molecular link between metabolism, inflammation, and cancer. *Cancer Res.* **70(1)**, 8-11 (2010).
2. Revollo, J.R., Körner, A., Mills, K.F., *et al.* Nampt/PBEF/visfatin regulates insulin secretion in B cells as a systemic NAD biosynthetic enzyme. *Cell Metab.* **6(5)**, 363-75 (2007).
3. Yoshino, J., Mills, K.F., Yoon, M.J., *et al.* Nicotinamide mononucleotide, a key NAD⁺ intermediate, treats the pathophysiology of diet- and age-induced diabetes in mice. *Cell Metab.* **14(4)**, 528-536 (2011).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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