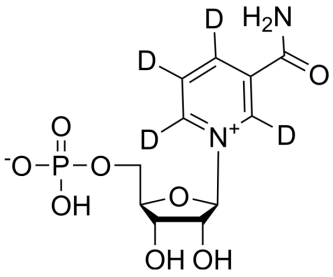
β-Nicotinamide mononucleotide-d_4

Cat. No.:	HY-F0004S
Molecular Formula:	$C_{11}H_{11}D_4N_2O_8P$
Molecular Weight:	338.24
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



BIOLOGICAL ACTIVITY

Description	β-Nicotinamide mononucleotide-d_4 is the deuterium labeled β-Nicotinamide mononucleotide. β-nicotinamide mononucleotide (β-NM) is a product of the nicotinamide phosphoribosyltransferase (NAMPT) reaction and a key NAD+ intermediate. The pharmacological activities of β-nicotinamide mononucleotide include its role in cellular biochemical functions, cardioprotection, diabetes, Alzheimer's disease, and complications associated with obesity[1].
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

[2]. Poddar SK, et al. Nicotinamide Mononucleotide: Exploration of Diverse Therapeutic Applications of a Potential Molecule. Biomolecules. 2019;9(1):34. Published 2019 Jan 21.

[3]. Lv H, et al. NAD+ Metabolism Maintains Inducible PD-L1 Expression to Drive Tumor Immune Evasion [published online ahead of print, 2020 Nov 3]. Cell Metab. 2020;S1550-4131(20)30554-4.

[4]. Li J, et al. p53 prevents doxorubicin cardiotoxicity independently of its prototypical tumor suppressor activities. Proc Natl Acad Sci U S A. 2019;116(39):19626-19634.

[5]. Yoshino J, et al Nicotinamide mononucleotide, a key NAD(+) intermediate, treats the pathophysiology of diet- and age-induced diabetes in mice. Cell Metab. 2011;14(4):528-536.

Caution: Product has not been fully validated for medical applications. For research use only.

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