β-Nicotinamide mononucleotide-d_4

Cat. No.: HY-F0004S

Molecular Formula: $C_{11}H_{11}D_4N_2O_8P$

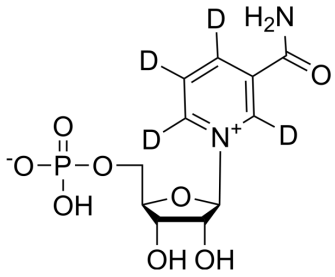
Molecular Weight: 338.24

Target: Endogenous Metabolite

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

PBS (pH 7.2) : ≥ 10 mg/mL (29.56 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.9565 mL	14.7824 mL	29.5648 mL
5 mM	0.5913 mL	2.9565 mL	5.9130 mL
10 mM	0.2956 mL	1.4782 mL	2.9565 mL

Please refer to the solubility information to select the appropriate solvent.

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.

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