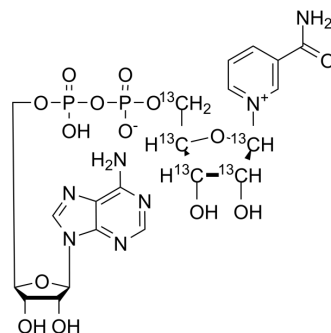


NAD⁺-¹³C₅

Cat. No.:	HY-B0445S1
CAS No.:	1859096-06-2
Molecular Formula:	C ₁₆ ¹³ C ₅ H ₂₇ N ₇ O ₁₄ P ₂
Molecular Weight:	668.39
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



BIOLOGICAL ACTIVITY

Description	NAD ⁺ - ¹³ C ₅ -1 is the ¹³ C labeled NAD ⁺ [1]. NAD ⁺ is a coenzyme composed of ribosylnicotinamide 5'-diphosphate coupled to adenosine 5'-phosphate by pyrophosphate linkage.
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 Feb;53(2):211-216.
- [2]. Viollet, B., et al., Cellular and molecular mechanisms of metformin: an overview. *Clin Sci (Lond)*, 2012. 122(6): p. 253-70.
- [3]. Brandt, U., Energy converting NADH:quinone oxidoreductase (complex I). *Annu Rev Biochem*, 2006. 75: p. 69-92.
- [4]. Kussmaul, L. and J. Hirst, The mechanism of superoxide production by NADH:ubiquinone oxidoreductase (complex I) from bovine heart mitochondria. *Proc Natl Acad Sci U S A*, 2006. 103(20): p. 7607-12.

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

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