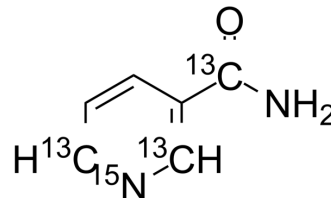


## Nicotinamide-15N,13C3

<b>Cat. No.:</b>	HY-B0150S1
<b>CAS No.:</b>	2117346-85-5
<b>Molecular Formula:</b>	C <sub>3</sub> <sup>13</sup> C <sub>3</sub> H <sub>6</sub> N <sup>15</sup> NO
<b>Molecular Weight:</b>	126.1
<b>Target:</b>	Endogenous Metabolite; Sirtuin
<b>Pathway:</b>	Metabolic Enzyme/Protease; Cell Cycle/DNA Damage; Epigenetics
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Nicotinamide-15N,13C3 is the 13C-labeled and 15N-labeled Nicotinamide. Nicotinamide is a form of vitamin B3 that plays essential roles in cell physiology through facilitating NAD <sup>+</sup> redox homeostasis and providing NAD <sup>+</sup> as a substrate to a class of enzymes that catalyze non-redox reactions. Nicotinamide is an inhibitor of SIRT1.
<b>In Vitro</b>	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 <sup>[1]</sup> . 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]. Bhansali SG, et al. Nicotinamide prevents apoptosis in human cortical neuronal cells. *Toxicol Mech Methods.* 2006;16(4):173-80.
- [3]. Peck B, et al. SIRT inhibitors induce cell death and p53 acetylation through targeting both SIRT1 and SIRT2. *Mol Cancer Ther.* 2010 Apr;9(4):844-55.
- [4]. Fushima T, et al. Nicotinamide ameliorates a preeclampsia-like condition in mice with reduced uterine perfusion pressure. *Am J Physiol Renal Physiol.* 2016 Dec 7:ajprenal.00501.2016
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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