NAD+

Cat. No.: HY-B0445

CAS No.: 53-84-9

Molecular Formula: $C_{21}H_{27}N_7O_{14}P_2$

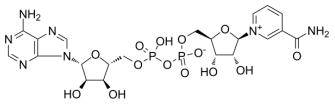
Molecular Weight: 663.43

Target: Endogenous Metabolite

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

H_2O : 41.67 mg/mL (62.81 mM; Need ultrasonic)

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
1 mM	1.5073 mL	7.5366 mL	15.0732 mL
5 mM	0.3015 mL	1.5073 mL	3.0146 mL
10 mM	0.1507 mL	0.7537 mL	1.5073 mL

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

BIOLOGICAL ACTIVITY

Description

NAD+ is a coenzyme composed of ribosylnicotinamide 5'-diphosphate coupled to adenosine 5'-phosphate by pyrophosphate linkage.

IC_{50} & Target

Human Endogenous Metabolite

In Vitro

NAD+ is a coenzyme composed of ribosylnicotinamide 5'-diphosphate coupled to adenosine 5'-phosphate by pyrophosphate linkage. NAD+ is the oxidized form of NADH[1]. NAD+ is found widely in nature and is involved in numerous enzymatic reactions in which it serves as an electron carrier by being alternately oxidized (NAD+) and reduced (Nadide) [2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Oral NAD+ supplementation has been used to combat simple fatigue as well as such mysterious and energy-sapping disorders as chronic fatigue syndrome and fibromyalgia[3].

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CUSTOMER VALIDATION

- J Autoimmun. 2017 Jul;81:120-129.
- iScience. 2022 May 4;25(5):104347.
- Front Pharmacol. 2020 Jul 29;11:1136.
- J Mol Cell Cardiol. 2018 Aug;121:134-144.
- Toxicol Lett. 2021 Jun 2;S0378-4274(21)00145-4.

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REFERENCES

[1]. Viollet, B., et al., Cellular and molecular mechanisms of metformin: an overview. Clin Sci (Lond), 2012. 122(6): p. 253-70.

[2]. Brandt, U., Energy converting NADH:quinone oxidoreductase (complex I). Annu Rev Biochem, 2006. 75: p. 69-92.

[3]. 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.

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