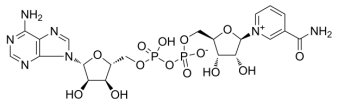
NAD+

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 1 year -20°C 6 months



SOLVENT & SOLUBILITY

In Vitro

H_2O : 35 mg/mL (52.76 mM; Need ultrasonic)

H_2O : 29.17 mg/mL (43.97 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	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.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (150.73 mM); Clear solution; Need ultrasonic and warming and heat to 60°C

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

- Nat Cell Biol. 2024 Jul 12.
- Mol Cell. 2022 Oct 6;S1097-2765(22)00907-8.
- J Autoimmun. 2017 Jul;81:120-129.
- Cell Death Differ. 2024 Jan 5.
- Redox Biol. 2024 Jan 3:69:103030.

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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.

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

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