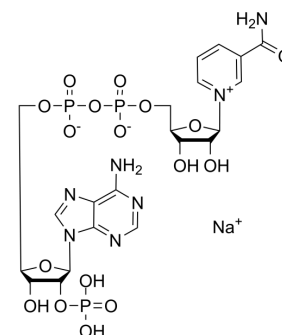


NADP sodium salt

Cat. No.:	HY-F0002
CAS No.:	1184-16-3
Molecular Formula:	C ₂₁ H ₂₇ N ₇ NaO ₁₇ P ₃
Molecular Weight:	765.39
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	-20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro	H ₂ O : 100 mg/mL (130.65 mM; Need ultrasonic)					
	DMSO : 3.57 mg/mL (4.66 mM; ultrasonic and warming and heat to 80°C)					
	Preparing Stock Solutions	Solvent	Mass	1 mg	5 mg	10 mg
		Concentration				
		1 mM		1.3065 mL	6.5326 mL	13.0652 mL
5 mM			0.2613 mL	1.3065 mL	2.6130 mL	
	10 mM		0.1307 mL	0.6533 mL	1.3065 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 (130.65 mM); Clear solution; Need ultrasonic					

BIOLOGICAL ACTIVITY

Description	NADP sodium salt is the sodium salt form of NADP (HY-113325). NADP is a coenzyme involved in cellular electron transfer reactions in biological metabolism, which is alternately oxidized (NADP ⁺) and reduced (NADPH), and can maintain cellular redox homeostasis and regulate many biological events, including cellular metabolism. NADPH is a universal electron donor that provides reducing ability for synthetic metabolic reactions and redox balance. It plays a multifunctional role in regulating inflammation, redox homeostasis, and synthetic metabolism processes ^{[1][4]} .
IC₅₀ & Target	Human Endogenous Metabolite
In Vitro	NADP can impair folate metabolism and nucleotide biosynthesis in HCT116 cells at high concentrations, leading to the cessation of proliferation and prioritizing cell survival ^[1] . NADP forms NAADP through IL-8-driven CD38 to mobilize Ca ²⁺ and influence cell migration ^[2] . NADP de novo synthesis mediated by NADK upregulation provides power for anabolic reaction and antioxidant system to promote breast cancer metastasis ^[3] .

NADPH is upregulated in ROS generation mediated by hyperglycemia and IDPc induction, thereby protecting renal cells from oxidative stress^[4].

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

Cell Line:

Concentration:

Incubation Time:

Result:

Cell Line:

Concentration:

Incubation Time:

Result:

Cell Line:

Concentration:

Incubation Time:

Result:

CUSTOMER VALIDATION

- Cell Prolif. 2021 Feb 25;e13015.
- Cell Oncol. 2023 Mar 13.
- Eur J Pharm Sci. 2023 May 22;106475.
- Insect Biochem Mol Biol. 2023 May 12;103958.

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- [1]. Agledal L, et al. The phosphate makes a difference: cellular functions of NADP. Redox Rep. 2010;15(1):2-10.
- [2]. Chen L, et al. NADPH production by the oxidative pentose-phosphate pathway supports folate metabolism. Nat Metab. 2019 Mar;1:404-415. Epub 2019 Mar 11. PMID: 31058257; PMCID: PMC6489125.
- [3]. Nam TS, et al. Interleukin-8 drives CD38 to form NAADP from NADP+ and NAAD in the endolysosomes to mobilize Ca²⁺ and effect cell migration. FASEB J. 2020 Sep;34(9):12565-12576.
- [4]. Ilter D, et al. NADK-mediated de novo NADP(H) synthesis is a metabolic adaptation essential for breast cancer metastasis. Redox Biol. 2023 May;61:102627.
- [5]. Lee SH, et al. Upregulation of cytosolic NADP⁺-dependent isocitrate dehydrogenase by hyperglycemia protects renal cells against oxidative stress. Mol Cells. 2010 Feb 28;29(2):203-8.

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

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