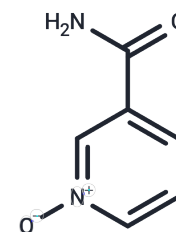


Nicotinamide N-oxide

Chemical Properties

CAS No. :	1986-81-8
Formula:	C ₆ H ₆ N ₂ O ₂
Molecular Weight:	138.12
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



Biological Description

Description	Nicotinamide N-oxide (Nicotinamide 1-oxide) is recognized as an in vivo metabolite of nicotinamide which is a precursor of nicotinamide-adenine dinucleotide (NAD+) in animals. The enzyme that catalyzes the reduction of nicotinamide N-oxide to nicotinamide in the liver is xanthine oxidase.
Targets(IC50)	OXPHOS,Endogenous Metabolite,c-Myc,CXCR,Drug Metabolite
In vitro	Nicotinamide, a vitamin B3 variant, serves as a precursor to nicotinamide adenine dinucleotide, crucial for oxidative phosphorylation and dehydrogenase cofactor roles. It undergoes metabolism via two pathways: initial methylation by nicotinamide N-methyltransferase, followed by aldehyde oxidase oxidation, and direct oxidation to nicotinamide N-oxide. Studies have introduced a range of nicotinamide N-oxides as innovative, effective CXCR2 receptor antagonists. Specifically, Compound 1 effectively inhibits neutrophil chemotaxis (IC ₅₀ =10 nM), whereas Compound 2 selectively blocks IL-8 binding (IC ₅₀ =110 nM) and also significantly hampers neutrophil chemotaxis (IC ₅₀ =170 nM).

Solubility Information

Solubility	DMSO: 3.85 mg/mL (27.87 mM),Sonication is recommended. H ₂ O: Limited solubility, (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (7.24 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	7.2401 mL	36.2004 mL	72.4008 mL
5 mM	1.448 mL	7.2401 mL	14.4802 mL
10 mM	0.724 mL	3.620 mL	7.2401 mL
50 mM	0.1448 mL	0.724 mL	1.448 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Cutshall NS, et al. Nicotinamide N-oxides as CXCR2 antagonists. *Bioorg Med Chem Lett.* 2001 Jul 23;11(14):1951-4.
Real AM, et al. Nicotinamide N-oxidation by CYP2E1 in human liver microsomes. *Drug Metab Dispos.* 2013 Mar;41(3):550-3.

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