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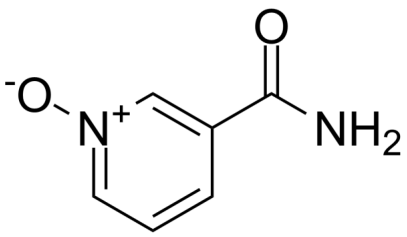
Certificate of Analysis

Catalog Number	BP12549
Product Name	Nicotinamide N-oxide

Physical and Chemical Properties

Synonyms	Nicotinamide-N-oxide, 1-oxynicotinamide, Nicotinamide 1-oxide
CAS No.	1986-81-8
Chemical Formula	C6H6N2O2
Molecular Weight	138.126
Solubility	H2O: Limited solubility DMSO: 8 mg/mL(57.9 mM)
Storage	Powder: -20°C for 2 years In solvent: -80°C for 1 year
Chemical Structure OR Tested Image	

Product Information

Purdue Bioscience Inc.

Description	Nicotinamide N-oxide is recognized as an in vivo metabolite of nicotinamide which is a precurser 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.
In vitro	Nicotinamide is one of the forms of vitamin B3. It is a precursor for nicotinamide adenine dinucleotide, which is best known as an electron carrier in oxidative phosphorylation and as a cofactor for many dehydrogenases. It is metabolized through two enzymatic systems. The first system starts with the methylation of nicotinamide by nicotinamide N-methyltransferase, which can subsequently be oxidized by aldehyde oxidase. The second enzymatic system oxidizes nicotinamide to nicotinamide N-oxide. A series of nicotinamide N-oxides is synthesized and shown to be novel, potent, and selective antagonists of the CXCR2 receptor. Compound 1 has demonstrated potent inhibition of neutrophil chemotaxis (IC50=10 nM). Compound 2 is a selective antagonist of IL-8 binding (IC50=110 nM) and potent inhibitor of neutrophil chemotaxis (IC50=170 nM).

Analytical Data

HPLC	Shows Min >99% purity
H-NMR	Consistent with structure
Stability and Solubility Advice	Information on product stability, especially in solution, has rarely been reported and in most cases we can only provide a general guideline. We recommend that once the stock solution has been prepared, it be stored in equal quantities in sealed vials and used within 1 month. Avoid repeated freezing and thawing cycles. Storage conditions for some special products should be referred to their storage details.

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