

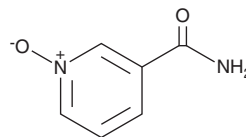
PRODUCT INFORMATION



Nicotinamide N-oxide

Item No. 28441

CAS Registry No.: 1986-81-8
Formal Name: 3-pyridinecarboxamide, 1-oxide
Synonyms: NSC 168416, NSC 30531
MF: C₆H₆N₂O₂
FW: 138.1
Purity: ≥95%
UV/Vis.: λ_{max}: 222, 271 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Nicotinamide N-oxide is supplied as a crystalline solid. A stock solution may be made by dissolving the nicotinamide N-oxide in the solvent of choice, which should be purged with an inert gas. Nicotinamide N-oxide is soluble in the organic solvent DMSO at a concentration of approximately 3 mg/ml. Nicotinamide N-oxide is also slightly soluble in ethanol and dimethyl formamide.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of nicotinamide N-oxide can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of nicotinamide N-oxide in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Nicotinamide N-oxide is a metabolite of nicotinamide (Item No. 11127).¹ It is formed *via* oxidation of nicotinamide by the cytochrome P450 (CYP) isoform CYP2E1. Nicotinamide N-oxide (30 mM) inhibits proliferation and induces reduction of nitroblue tetrazolium (NBT; Item No. 17341), indicating cell differentiation, in HL-60 promyelocytic leukemia cells.² Urine levels of nicotinamide N-oxide are elevated in a mouse model of high-fat diet-induced obesity.³

References

1. Real, A.M., Hong, S., and Pissios, P. Nicotinamide N-oxidation by CYP2E1 in human liver microsomes. *Drug Metab. Dispos.* **41(3)**, 550-553 (2013).
2. Iwata, K., Ogata, S., Okumura, K., *et al.* Induction of differentiation in human promyelocytic leukemia HL-60 cell line by niacin-related compounds. *Biosci. Biotechnol. Biochem.* **67(5)**, 1132-1135 (2003).
3. Jung, J.Y., Kim, I.Y., Kim, Y.N., *et al.* ¹H NMR-based metabolite profiling of diet-induced obesity in a mouse mode. *BMB Rep.* **45(7)**, 419-424 (2012).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM