

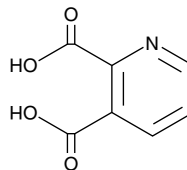
Product Information



Quinolinic Acid

Item No. 14941

CAS Registry No.: 89-00-9
Formal Name: 2,3-pyridinedicarboxylic acid
Synonyms: NSC 13127, NSC 18836, NSC 403247
MF: C₇H₅NO₄
FW: 167.1
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 216, 264 nm



Laboratory Procedures

For long term storage, we suggest that quinolinic acid be stored as supplied at -20°. It should be stable for at least two years.

Quinolinic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the quinolinic acid in the solvent of choice. Quinolinic acid is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of quinolinic acid in these solvents is approximately 16 mg/ml.

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 quinolinic acid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of quinolinic acid in PBS, pH 7.2, is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Quinolinic acid is an endogenous agonist at NMDA receptors that is generated through the metabolism of tryptophan in the kynurenine pathway.¹ By overactivating NMDA receptors, quinolinic acid produces neurotoxicity, which has been implicated in certain neurodegenerative disorders.² Quinolinic acid can also generate reactive oxygen species, has immunomodulatory actions, and promotes the formation of hyperphosphorylated tau proteins.³⁻⁵

References

1. Heyes, M.P., Achim, C.L., Wiley, C.A., *et al.* Human microglia convert L-tryptophan into the neurotoxin quinolinic acid. *Biochem. J.* **320**(2), 595-597 (1996).
2. Stone, T.W., Forrest, C.M., and Darlington, L.G. Kynurenine pathway inhibition as a therapeutic strategy for neuroprotection. *FEBS J.* **279**(8), 1386-1397 (2012).
3. Santamaría, A., Santamaría, D., Díaz-Muñoz, M., *et al.* Effects of Nω-nitro-L-arginine and L-arginine on quinolinic acid-induced lipid peroxidation. *Toxicol. Lett.* **93**, 117-124 (1997).
4. Moffett, J.R., Espey, M.G., and Namboodiri, M.A.A. Antibodies to quinolinic acid and the determination of its cellular distribution within the rat immune system. *Cell Tissue Res.* **278**, 461-469 (1994).
5. Stone, T.W., Stoy, N., and Darlington, L.G. An expanding range of targets for kynurenine metabolites of tryptophan. *Trends Pharmacol. Sci.* **34**(2), 136-143 (2013).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/14941

Cayman Chemical

Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's exclusive remedy and Cayman's sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman's option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.

Copyright Cayman Chemical Company, 09/16/2013