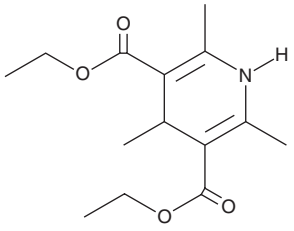
PRODUCT INFORMATION

Diethyl 1,4-dihydro-2,4,6-trimethyl-3,5-pyridinedicarboxylate

Item No. 23230

CAS Registry No.: 632-93-9
Formal Name: 1,4-dihydro-2,4,6-trimethyl-3,5-pyridinedicarboxylic acid, 3,5-diethyl ester
Synonyms: DDC, 3,5-Diethoxycarbonyl-1,4-dihydro-2,4,6-collidine, NSC 8910, NSC 49528
MF: $C_{14}H_{21}NO_4$
FW: 267.3
Purity: ≥98%
UV/Vis.: λ_{max}: 233, 350 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Diethyl 1,4-dihydro-2,4,6-trimethyl-3,5-pyridinedicarboxylate (DDC) is supplied as a crystalline solid. A stock solution may be made by dissolving the DDC in the solvent of choice. DDC is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of DDC in ethanol and DMSO is approximately 20 mg/ml and approximately 30 mg/ml in DMF.

DDC is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DDC should first be dissolved in DMF and then diluted with the aqueous buffer of choice. DDC has a solubility of approximately 0.125 mg/ml in a 1:7 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

DDC inhibits heme production by inhibiting ferrochelatase, the enzyme that catalyzes the addition of Fe^{2+} to protoporphyrin IX to create heme B.[1] Chronic DDC administration induces Mallory-Denk body formation, a feature of alcoholic and non-alcoholic hepatitis, and reduces IL-12A methylation in mouse liver.[2,3]

References

1. Onisawa, J., and Labbe, R.F. Effects of diethyl 1,4-dihydro-2,4,6-trimethyl-3,5-pyridinedicarboxylate on the metabolism of porphyrins and iron. *J. Biol. Chem.* **238(2)**, 724-727 (1963).
2. Yuan, Q.X., Marceau, N., French, B.A., *et al.* Mallory body induction in drug-primed mouse liver. *Hepatology* **24(3)**, 603-612 (1996).
3. Oliva, J., and French, S.W. Changes in IL12A methylation pattern in livers from mice fed DDC. *Exp. Mol. Pathol.* **92(2)**, 191-193 (2012).

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