

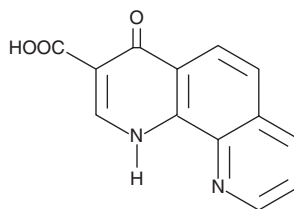
PRODUCT INFORMATION



1,4-DPCA

Item No. 71220

CAS Registry No.: 331830-20-7
Formal Name: 4,4 α -dihydro-4-oxo-1,10-phenanthroline-3-carboxylic acid
Synonyms: 1,4-dihydrophenanthroline-4-one-3-Carboxylic acid
MF: C₁₃H₈N₂O₃
FW: 240.2
Purity: \geq 98%
UV/Vis.: λ_{max} : 216, 242, 261, 280, 317, 332 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: \geq 4 years



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

Laboratory Procedures

1,4-DPCA is supplied as a crystalline solid. A stock solution may be made by dissolving the 1,4-DPCA in the solvent of choice, which should be purged with an inert gas. 1,4-DPCA is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 1,4-DPCA in these solvents is approximately 3 mg/ml.

1,4-DPCA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 1,4-DPCA should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 1,4-DPCA has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

1,4-DPCA is a competitive inhibitor of prolyl 4-hydroxylase in embryonic chick tendon cells and of collagen hydroxylation in human foreskin fibroblasts with an IC₅₀ value of 3.6 and 2.4 μ M, respectively.¹ β -oxocarboxylic acids such as 1,4-DPCA have also been found to inhibit the asparaginyl-hydroxylase, factor inhibiting HIF (FIH), with an IC₅₀ value of 60 μ M.²

References

1. Franklin, T.J., Morris, W.P., Edwards, P.N., *et al.* Inhibition of prolyl 4-hydroxylase in vitro and in vivo by members of a novel series of phenanthrolineones. *Biochem. J.* **353**, 333-338 (2001).
2. Banerji, B., Conejo-Garcia, A., McNeill, L.A., *et al.* The inhibitor of factor inhibiting hypoxia-inducible factor (FIH) by β -oxocarboxylic acids. *Chem. Commun. (Camb.)* **(43)**, 5438-5440 (2005).

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