

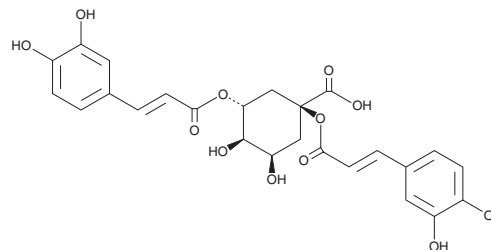
PRODUCT INFORMATION



1,5-Dicaffeoylquinic Acid

Item No. 25050

CAS Registry No.: 19870-46-3
Formal Name: (1S,3R,4R,5R)-1,3-bis[[3-(3,4-dihydroxyphenyl)-1-oxo-2-propen-1-yl]oxy]-4,5-dihydroxy-cyclohexanecarboxylic acid
Synonyms: 1,5-DCQA, 1,3-Dicaffeoylquinic Acid
MF: C₂₅H₂₄O₁₂
FW: 516.5
Purity: ≥98%
UV/Vis.: λ_{max}: 220, 330 nm
Supplied as: A film
Storage: -20°C
Stability: ≥4 years
Item Origin: Plant/Inulae Flos



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

Laboratory Procedures

1,5-Dicaffeoylquinic acid (1,5-DCQA) is supplied as a film. A stock solution may be made by dissolving the 1,5-DCQA in the solvent of choice. 1,5-DCQA is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of 1,5-DCQA in ethanol and DMSO is approximately 50 mg/ml and approximately 71 mg/ml in DMF.

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 1,5-DCQA can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 1,5-DCQA in PBS, pH 7.2, is approximately 25 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

1,5-DCQA has been found in *A. montana* and is an HIV-1 integrase inhibitor and free radical scavenger.^{1,2} 1,5-DCQA inhibits HIV-1 integrase 3' end processing, end joining, and disintegration with IC₅₀ values of 0.35, 0.56, and 0.84 µg/ml, respectively.² It also inhibits HIV-1 replication in MT-2 T lymphoblastoid cells with an ED₅₀ value of 2 µg/ml. 1,5-DCQA (0.25-1 µM) reduces the level of free radicals released from human polymorphonuclear (PMN) cells stimulated by N-formyl-Met-Leu-Phe (fMLP; Item No. 21495) in a dose-dependent manner.¹ It also dose-dependently increases cell survival and glutathione (GSH) levels and decreases reactive oxygen species (ROS) production and lactate dehydrogenase (LDH) release in an oxygen-glucose deprivation/reperfusion assay in rat cerebral astrocytes when used at concentrations ranging from 5 to 100 µM.³

References

1. Heilmann, J., Merfort, I., and Weiss, M. Radical scavenger activity of different 3',4'-dihydroxyflavonols and 1,5-dicaffeoylquinic acid studied by inhibition of chemiluminescence. *Planta Med.* **61(5)**, 435-438 (1995).
2. Robinson, W.E., Jr., Cordeiro, M., Abdel-Malek, S., et al. Dicaffeoylquinic acid inhibitors of human immunodeficiency virus integrase: Inhibition of the core catalytic domain of human immunodeficiency virus integrase. *Mol. Pharmacol.* **50(4)**, 846-855 (1996).
3. Cao, X., Xiao, H., Zhang, Y., et al. 1, 5-Dicaffeoylquinic acid-mediated glutathione synthesis through activation of Nrf2 protects against OGD/reperfusion-induced oxidative stress in astrocytes. *Brain Res.* **1347**, 142-148 (2010).

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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