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PRODUCT INFORMATION



3,5-Dicaffeoylquinic Acid

Item No. 24964

CAS Registry No.: 2450-53-5

Formal Name: (1 α ,3R,4 α ,5R)-3,5-bis[[3-(3,4-dihydroxyphenyl)-1-oxo-2-propen-1-yl]oxy]-1,4-dihydroxycyclohexanecarboxylic acid

Synonyms: 3,5-DCQA, Isochlorogenic Acid A

MF: C₂₅H₂₄O₁₂

FW: 516.5

Purity: $\geq 98\%$

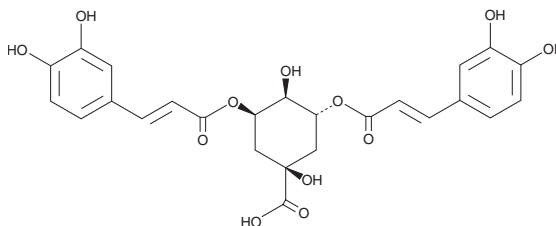
UV/Vis.: λ_{max} : 220, 246, 330 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥ 4 years

Item Origin: Plant/*Lonicera japonica* Thunb.



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

Laboratory Procedures

3,5-Dicaffeoylquinic acid (3,5-DCQA) is supplied as a crystalline solid. A stock solution may be made by dissolving the 3,5-DCQA in the solvent of choice, which should be purged with an inert gas. 3,5-DCQA is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 3,5-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 3,5-DCQA can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 3,5-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

3,5-DCQA is a natural phenolic compound that has been found in *L. japonica*, *I. kaushue*, and other plants.^{1,2} It has antioxidant, anti-inflammatory, and antiviral biological activities.²⁻⁴ 3,5-DCQA scavenges 2,2-diphenyl-1-picrylhydrazyl (DPPH; Item No. 14805) radicals in a cell-free assay ($IC_{50} = 71.8 \mu\text{M}$) and inhibits superoxide production in human neutrophils activated by N-formyl-Met-Leu-Phe (fMLF) and cytochalasin B ($IC_{50} = 1.92 \mu\text{M}$).^{2,3} It inhibits HIV-1 integrase 3'-end processing, strand transfer, and disintegration in a cell-free assay (IC_{50} s = 0.33, 0.34, and 0.66 $\mu\text{g/ml}$, respectively) and inhibits HIV-1-induced cytotoxicity in MT-2 cells ($ED_{50} = 1 \mu\text{g/ml}$).⁴ *In vivo*, 3,5-DCQA (25 mg/kg) protects mice from acute lung injury induced by LPS and decreases neutrophil count in bronchoalveolar lavage fluid (BALF).²

References

1. Peng, L.-Y., Mei, S.-X., Jiang, B., et al. *Fitoterapia* **71**(6), 713-715 (2000).
2. Chen, Y.-L., Hwang, T.-L., Yu, H.-P., et al. *Sci. Rep.* **6**, 34243 (2016).
3. Pantoja Pulido, K.D., Colmenares Dulcey, A.J., and Isaza Martínez, J.H. *Food Chem. Toxicol.* **109**(Pt. 2), 1079-1085 (2017).
4. Robinson, W.E., Jr., Reinecke, M.G., Abdel-Malek, S., et al. *Proc. Natl. Acad. Sci. U.S.A.* **93**(13), 6326-6331 (1996).

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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