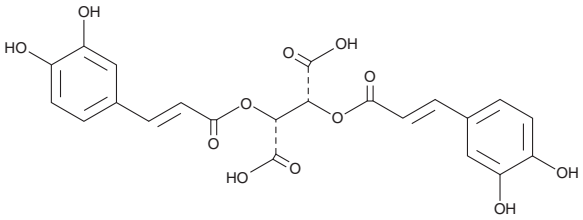
PRODUCT INFORMATION

Chicoric Acid

Item No. 24960

CAS Registry No.:	70831-56-0
Formal Name:	(2R,3R)-2,3-*bis*[[(2E)-3-(3,4-dihydroxyphenyl)-1-oxo-2-propen-1-yl]oxy]-butanedioic acid
Synonyms:	L-Chicoric Acid, Dicaffeoyltartaric Acid, NSC 99173
MF:	$C_{22}H_{18}O_{12}$
FW:	474.4
Purity:	≥95%
UV/Vis.:	λ_{max}: 220, 248, 334 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

Chicoric acid is supplied as a crystalline solid. A stock solution may be made by dissolving the chicoric acid in the solvent of choice, which should be purged with an inert gas. Chicoric acid is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of chicoric acid in these solvents is approximately 25 and 30 mg/ml, respectively.

Chicoric acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, chicoric acid should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Chicoric acid has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Chicoric acid is a dicaffeoyl ester that has been found in *C. intybus* with diverse biological activities.[1] Chicoric acid (50-200 µg/ml) dose-dependently reduces the viability of Caco-2 and HCT116 human colorectal cancer cells.[2] It inhibits HIV integrase activities, including 3'-processing of a DNA oligonucleotide and integration with template DNA (IC_{50}s = 1.1 and 0.8 µM, respectively).[3] Chicoric acid (0.5-10 µM) noncompetitively inhibits integration of HIV DNA by HIV integrase and, at concentrations greater than or equal to 5 µM, inhibits HIV entry into H9 cells.[4] Oral administration of chicoric acid (10 and 30 mg/kg) reduces hepatic lipid accumulation, lipid peroxidation, and fibrosis, inhibits production of pro-inflammatory cytokines and activation of NF-κB, and activates the AMPK signaling pathway in a mouse model of non-alcoholic steatohepatitis (NASH) induced by a methionine and choline-deficient diet.[5] Chicoric acid (2 mg/kg) also reduces blood glucose levels by 54% in mice with streptozotocin-induced diabetes.[6]

References

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2. Tsai, Y.-L., Chiu, C.-C., Chen, J.Y.-F., *et al. J. Ethnopharmacol.* **143(3)**, 914-919 (2012).
3. Lin, Z., Neamati, N., Zhao, H., *et al. J. Med. Chem.* **42(8)**, 1401-1414 (1999).
4. Reinke, R.A., Lee, D.J., McDougall, B.R., *et al. Virology* **326(2)**, 203-219 (2004).
5. Kim, M., Yoo, G., Randy, A., *et al. Mol. Nutr. Food Res.* **61(5)**, (2017).
6. Casanova, L.M., da Silva, D., Sola-Penna, M., *et al. Filoterapia* **93**, 132-141 (2014).

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