

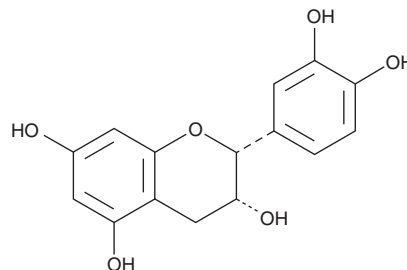
PRODUCT INFORMATION



(-)-Epicatechin

Item No. 11807

CAS Registry No.: 490-46-0
Formal Name: 2R-(3,4-dihydroxyphenyl)-3,4-dihydro-2H-1-benzopyran-3R,5,7-triol
Synonyms: *epi*-Catechin, NSC 81161
MF: C₁₅H₁₄O₆
FW: 290.3
Purity: ≥90%
UV/Vis.: λ_{max}: 278 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years
Item Origin: Plant/*Acacia catechu*



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

Laboratory Procedures

(-)-Epicatechin is supplied as a crystalline solid. A stock solution may be made by dissolving the (-)-epicatechin in the solvent of choice, which should be purged with an inert gas. (-)-Epicatechin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of (-)-epicatechin in these solvents is approximately 12.5 mg/ml.

(-)-Epicatechin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (-)-epicatechin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. (-)-Epicatechin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

(-)-Epicatechin is a polyketide synthase-derived polyphenol flavonoid that has been found in *T. cacao* and has diverse biological activities.¹⁻⁵ It scavenges DPPH (Item No. 14805) radicals in a cell-free assay when used at a concentration of 5 μM.² (-)-Epicatechin inhibits COX-1 (IC₅₀ = 3.2 μM).³ It acts synergistically with epigallocatechin gallate (Item No. 70935) to induce apoptosis in, and reduce the proliferation of, PC-9 lung cancer cells when used at a concentration of 200 μM.⁴ (-)-Epicatechin (80 mg/kg) reduces LPS-induced increases in plasma creatinine and urea levels in a rat model of renal inflammation.⁵

References

1. Tauchen, J., Huml, L., Rimpelova, S., *et al.* Flavonoids and related members of the aromatic polyketide group in human health and disease: Do they really work? *Molecules* **25(17)**, 3846 (2020).
2. Xu, J.Z., Yeung, S.Y.V., Chang, Q., *et al.* Comparison of antioxidant activity and bioavailability of tea epicatechins with their epimers. *Br. J. Nutr.* **91(6)**, 873-881 (2004).
3. Waffo-Téguo, P., Hawthorne, M.E., Cuendet, M., *et al.* Potential cancer-chemopreventive activities of wine stilbenoids and flavans extracted from grape (*Vitis vinifera*) cell cultures. *Nutr. Cancer* **40(2)**, 173-179 (2001).
4. Suganuma, M., Okabe, S., Kai, Y., *et al.* Synergistic effects of (-)-epigallocatechin gallate with (-)-epicatechin, sulindac, or tamoxifen on cancer-preventive activity in the human lung cancer cell line PC-9. *Cancer Res.* **59(1)**, 44-47 (1999).
5. Prince, P.D., Fischerman, L., Toblli, J.E., *et al.* LPS-induced renal inflammation is prevented by (-)-epicatechin in rats. *Redox Biol.* **11**, 342-349 (2017).

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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