

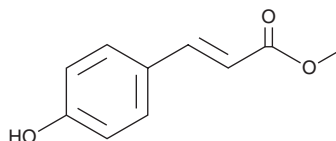
PRODUCT INFORMATION



Methyl 4-hydroxycinnamate

Item No. 35203

CAS Registry No.: 19367-38-5
Formal Name: 3-(4-hydroxyphenyl)-2-propenoic acid, methyl ester
Synonyms: *trans*-4-Coumaric Acid methyl ester, *trans-p*-Coumaric Acid methyl ester, *trans-para*-Coumaric Acid methyl ester
MF: C₁₀H₁₀O₃
FW: 178.2
Purity: ≥98%
UV/Vis.: λ_{max}: 229, 314 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Synthetic



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

Laboratory Procedures

Methyl 4-hydroxycinnamate is supplied as a solid. A stock solution may be made by dissolving the methyl 4-hydroxycinnamate in the solvent of choice, which should be purged with an inert gas. Methyl 4-hydroxycinnamate is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of methyl 4-hydroxycinnamate in these solvents is approximately 5, 15, and 20 mg/ml, respectively.

Methyl 4-hydroxycinnamate is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, methyl 4-hydroxycinnamate should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Methyl 4-hydroxycinnamate has a solubility of approximately 0.16 mg/ml in a 1:5 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Methyl 4-hydroxycinnamate is a phenol and derivative of *p*-coumaric acid (Item No. 20929) that has been found in *Allium cepa* and has diverse biological activities.¹⁻⁴ It scavenges DPPH (Item No. 14805) radicals in a cell-free assay (IC₅₀ = 772.47 μM).¹ Methyl 4-hydroxycinnamate reduces LPS-induced nitric oxide (NO) production in RAW 264.7 cells (IC₅₀ = 19.29 μM).² It synergizes with curcumin (Item No. 81025) to induce apoptosis in HL-60 acute myeloid leukemia cells when used at a concentration of 5 μM.³ Methyl 4-hydroxycinnamate (10, 30, and 60 mg/kg) reduces parasitemia and increases survival in *P. berghei*-infected mice.⁴

References

1. Wan, C., Yuan, T., Cirello, A.L., et al. Antioxidant and α-glucosidase inhibitory phenolics isolated from highbush blueberry flowers. *Food Chem.* **135**(3), 1929-1937 (2012).
2. Jung, Y.-J., Park, J.-H., Seo, K.-H., et al. Phenolic compounds from the stems of *Zea mays* and their pharmacological activity. *J. Korean Soc. Appl. Biol. Chem.* **57**(3), 379-385 (2014).
3. Trachtenberg, A., Muduli, S., Sidoryk, K., et al. Synergistic cytotoxicity of methyl 4-hydroxycinnamate and carnosic acid to acute myeloid leukemia cells via calcium-dependent apoptosis induction. *Front. Pharmacol.* **10**, 507 (2019).
4. Sudi, S., Ali, A.H., Basir, R., et al. A derivative of cinnamic acid, methyl-4-hydroxycinnamate modules inflammatory cytokine levels in malaria-infected mice through inhibition of GSK3β. *Malays. Appl. Biol.* **47**(3), 153-157 (2018).

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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