

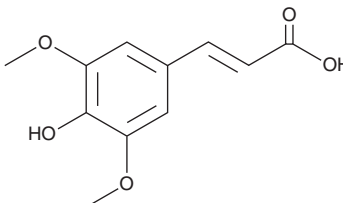
PRODUCT INFORMATION



Sinapic Acid

Item No. 25457

CAS Registry No.: 530-59-6
Formal Name: 3-(4-hydroxy-3,5-dimethoxyphenyl)-2-propenoic acid
Synonyms: NSC 59261, Sinapinic Acid
MF: C₁₁H₁₂O₅
FW: 224.2
Purity: ≥98%
UV/Vis.: λ_{max}: 240, 326 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

Sinapic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the sinapic acid in the solvent of choice, which should be purged with an inert gas. Sinapic acid is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of sinapic acid in these solvents is approximately 10 mg/ml.

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

Description

Sinapic acid is a phenylpropanoid hydroxycinnamic acid with diverse biological activities.¹ Sinapic acid inhibits collagen-induced human platelet aggregation by up to 70% *in vitro* (IC₅₀ = 1.03 mM).² It scavenges 2,2-diphenyl-1-picrylhydrazyl (DPPH; Item No. 14805) and 2,2'-azino-bis-(3-ethylbenzothiazoline-6-sulfonate) (ABTS) free radicals with IC₅₀ values of 8.3 and 5.4 μg/ml, respectively.³ Sinapic acid (200 μM) reduces colony formation of SW480 human colon carcinoma cells by 4-fold.⁴ It also inhibits colony formation of *E. coli*, *S. enteritidis*, and *S. aureus* on agar (MICs = 2.2, 2, and 1.8 mM, respectively).⁵ *In vivo*, sinapic acid (4 mg/kg, p.o.) increases the time spent in the open arms of the elevated plus maze by approximately 15% in mice, an effect that can be blocked by the GABA_A receptor antagonists flumazenil (Item No. 14252) and bicuculline (Item No. 11727).¹ Sinapic acid is also commonly used as a matrix in protein mass spectrometry.⁶

References

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2. Kim, M.-S., Shin, W.-C., Kang, D.-K., *et al.* *J. Microbiol. Biotechnol.* **26(1)**, 61-65 (2016).
3. Lee, K.J., Oh, Y.C., Cho, W.K., *et al.* *Evid. Based Complement. Alternat. Med.* **2015:165457** (2015).
4. Hudson, E.A., Dinh, P.A., Kokubun, T., *et al.* *Cancer Epidemiol. Biomarkers Prev.* **9(11)**, 1163-1170 (2000).
5. Tesaki, S., Tanabe, S., Ono, H., *et al.* *Biosci. Biotechnol. Biochem.* **62(5)**, 998-1000 (1998).
6. Jonsson, A.P. *Cell. Mol. Life Sci.* **58(7)**, 868-884 (2001).

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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