

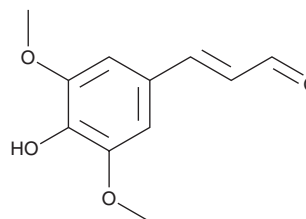
PRODUCT INFORMATION



Sinapaldehyde

Item No. 40267

CAS Registry No.: 4206-58-0
Formal Name: 3-(4-hydroxy-3,5-dimethoxyphenyl)-2E-propenal
Synonyms: Sinapylaldehyde, *trans*-Sinapaldehyde
MF: C₁₁H₁₂O₄
FW: 208.2
Purity: ≥98%
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

Sinapaldehyde is supplied as a solid. A stock solution may be made by dissolving the sinapaldehyde in the solvent of choice, which should be purged with an inert gas. Sinapaldehyde is soluble in methanol and DMSO.

Description

Sinapaldehyde is a phenylpropanoid that has been found in *A. altissima* and has diverse biological activities.¹⁻⁶ It is an intermediate in the biosynthesis of the monolignol sinapyl alcohol (Item No. 33916) in angiosperms.² Sinapaldehyde is an inhibitor of farnesyltransferase (FTase; IC₅₀ = 23.99 μM for the rat enzyme).³ It inhibits TNF-α-induced NF-κB transcriptional activity in a reporter assay using HepG2 cells (IC₅₀ = 13.25 μM) and reduces LPS-induced nitric oxide (NO) production in RAW 264.7 cells (IC₅₀ = 5.92 μM).^{1,4} Sinapaldehyde scavenges DPPH (Item No. 14805) and ABTS (Item No. 27317) radicals in cell-free assays (IC₅₀s = 83.02 and 43.15 μM, respectively).⁵ It is active against the Gram-positive bacteria *P. pseudomonas*, *E. coli*, and *S. enterica* (MICs = 64, 128, and 128 μg/ml, respectively) and the Gram-negative bacteria *B. cereus*, methicillin-sensitive *S. aureus* (MSSA), and methicillin-resistant *S. aureus* (MRSA; MICs = 128, 64, and 128 μg/ml, respectively).⁶ It also inhibits α-glucosidase with an IC₅₀ value of 98.81 μM.⁵

References

1. Kim, H.M., Lee, J.S., Sezirahiga, J., *et al.* A new canthinone-type alkaloid isolated from *Ailanthus altissima* swingle. *Molecules* **21**(5), 642 (2016).
2. Li, L., Cheng, X.F., Leshkevich, J., *et al.* The last step of syringyl monolignol biosynthesis in angiosperms is regulated by a novel gene encoding sinapyl alcohol dehydrogenase. *Plant Cell* **13**(7), 1567-1586 (2001).
3. Sung, N.-D., Cho, Y.K., Kwon, B.M., *et al.* 3D QSAR studies on cinnamaldehyde analogues as farnesyl protein transferase inhibitors. *Arch. Pharm. Res.* **27**(10), 1001-1008 (2004).
4. Sun, Y.N., Li, W., Song, S.B., *et al.* NF-κB inhibitory activities of phenolic and lignan components from the stems of *Acanthopanax divaricatus* var. *albeofructus*. *Nat. Prod. Sci.* **20**(4), 232-236 (2014).
5. Liu, L., Zou, M., Yin, Q., *et al.* Phenylpropanoids from *Liparis nervosa* and their in vitro antioxidant and α-glucosidase inhibitory activities. *Med. Chem. Res.* **30**, 1005-1010 (2021).
6. Lakornwong, W., Kanokmedhakul, K., and Kanokmedhakul, S. A new coruleoellagic acid derivative from stems of *Rhodamnia dumetorum*. *Nat. Prod. Res.* **32**(14), 1653-1659 (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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 02/20/2024

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