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- Diagnostik & molekulare Diagnostik
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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

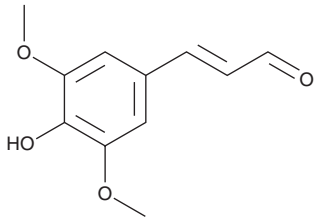
linkedin.com/company/szaboscandic

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:	$C_{11}H_{12}O_4$
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; IC_{50} = 23.99 µM for the rat enzyme).[3] It inhibits TNF-α-induced NF-κB transcriptional activity in a reporter assay using HepG2 cells (IC_{50} = 13.25 µM) and reduces LPS-induced nitric oxide (NO) production in RAW 264.7 cells (IC_{50} = 5.92 µM).[1,4] Sinapaldehyde scavenges DPPH (Item No. 14805) and ABTS (Item No. 27317) radicals in cell-free assays (IC_{50}s = 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 IC_{50} value of 98.81 µM.[5]

References

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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).

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