

Cinnamic aldehyde Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Cinnamic aldehyde

Catalog No.: CFN90321

Cas No.: 14371-10-9

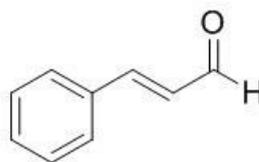
Purity: >=98%

M.F: C₉H₈O

M.W: 132.16

Physical Description: Powder

Synonyms: trans-Cinnamaldehyde; Zimtaldehyd; trans-3-Phenyl-2-propenal;
3-Phenyl-2-propenal; 2-Phenylprop-2-enal; (2E)-3-phenylprop-2-enal.



[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Food research;
4. Cosmetic research;
5. Synthetic precursor compounds;
6. Intermediates & Fine Chemicals;
7. Others.

[Source]

The barks of *Cinnamomum cassia* Presl.

[Biological Activity or Inhibitors]

Cinnamic aldehyde is a common fragrance additive in foods and various health and beauty products, application of cinnamic aldehyde to the skin of humans can induce cutaneous vasodilatation characterized by erythema, urticaria, and stinging, the cutaneous vasodilatation induced by cinnamic aldehyde is mediated to a large extent by the release of prostaglandins (PGs)D2 from a cellular source in the skin.^[1]

trans-Cinnamic aldehyde can inhibit NF-kappaB transcriptional activity and TNFalpha-induced IL-8 production in A375 cells, these findings support a previously unrecognized role of it as a dietary Michael acceptor with potential anti-cancer activity.^[2]

Cinnamic aldehyde exhibits bacteriocidal effects and inhibition of cell separation on *B. cereus*.^[3]

Cinnamon cassia oil is known as a topical sensitizer and was demonstrated to be the offending allergen, cinnamic aldehyde and related chemicals are used widely, so that patients having cinnamon allergy may be exposed to many sources.^[4]

Cinnamic aldehyde has cytotoxic effect on L1210 mouse leukemia cells, it inhibits L1210 cells by blocking protein synthesis through trapping sulfhydryl-containing amino acids in the cell.^[5]

Cinnamic aldehyde has potent nematicidal activity against *Meloidogyne incognita* with EC50 values of 12 ± 5 mg/L.^[6]

Cinnamic aldehyde can suppress the release of arachidonic acid (AA) from platelet membrane phospholipids and then reduce the formation of thromboxane A2, this inhibitory effect of cinnamic aldehyde on AA release and TXB2 formation may contribute to reduce platelet aggregation.^[7]

Cinnamic aldehyde is cardioprotective in a rat model of ischemic myocardial injury, the protection is attributable to anti-oxidative and anti-inflammatory properties, as well as increased nitric oxide (NO).^[8]

[Solvent]

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

[HPLC Method]^[9]

Mobile phase: Acetonitrile-0.1%Phosphoric acid H₂O, gradient elution;

Flow rate: 1.0 ml/min;

Column temperature: 25 °C;

The wave length of determination: 290 nm.

[Storage]

2-8°C, Protected from air and light, refrigerate or freeze.

[References]

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- [2] Cabello C M, Iii W B B, Lamore S D, *et al. Free Radical Bio. Med.*, 2009, 46(2):220-31.
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- [5] Moon K H, Pack M Y. *Drug Chem. Toxicol.*, 1983, 6(6):521-35.
- [6] Caboni P, Aissani N, Cabras T, *et al. J.Agr. Food Chem.*, 2013, 61(8):1794-803.
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- [8] Song F, Li H, Sun J, *et al. J. Ethnopharmacol.*, 2013, 150(1):125-30.
- [9] Liu D P, Zhao H L, Liu H Y, *et al. Asia-Pacific Traditional Medicine*, 2015, 11(18):11-3.

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