

Cinnamic acid Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Cinnamic acid

Catalog No.: CFN99453

Cas No.: 140-10-3

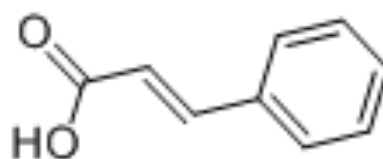
Purity: >=98%

M.F: C₉H₈O₂

M.W: 148.16

Physical Description: Powder

Synonyms: trans-3-Phenylacrylic acid; trans-3-Phenyl-2-propenoic acid; trans-Cinnamic acid; (2E)-3-phenylprop-2-enoic acid; 3-Phenylacrylic acid; Phenylacrylic acid; 3-phenylprop-2-enoic acid; (2E)-3-phenylprop-2-enoate; 2-[[[(3alpha,5beta,6beta,7beta,8xi,9xi,14xi)-3,6,7-trihydroxy-24-oxocholan-24-yl]amino]ethanesulfonic acid;(2Z)-3-phenylprop-2-enoic acid; β-phenylacrylic acid; (E)-Cinnamic acid.



[Intended Use]

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

[**Source**]

The *barks of Cinnamomum cassia*.

[**Biological Activity or Inhibitors**]

Cinnamic acid is an effective anticancer and antioxidant constituents of traditional Chinese herbal medicines of Xuanshen (*Radix scrophulariae*), it can serve as protective agents in cancer prevention and treatment.^[1]

Cinnamic acid induces cytostasis and a reversal of malignant properties of human tumor cells in vitro, the anti-tumor activity of cinnamic acid may be due in part to the inhibition of protein isoprenylation known to block mitogenic signal transduction, suggests that cinnamic acid as a new member of the aromatic fatty acid class of differentiation-inducers with potential use in cancer intervention.^[2]

Cinnamic acids, one type of secondary plant substances found in detritus, inhibit feeding by detritivores, this inhibition occurs at concentrations found in nature and may be a major factor controlling the rate of decay of organic matter.^[3]

Cinnamic acid enhances *Fusarium wilt* by predisposing cucumber roots to infection by *Fusarium oxysporum f. sp. Cucumerinum* through a direct biochemical and physiological effect, it has likely phytotoxic.^[4]

Cinnamic acid potentially can act as an in vivo modulator of the synthesis of phenylpropanoid pathway enzymes although it is not yet fully possible to rule out less specific inhibitory effects.^[5]

Cinnamic acid, 4-hydroxycinnamic acid and 4-methoxycinnamic acid strongly inhibit the diphenolase activity of mushroom tyrosinase and the inhibition is reversible, the IC 50 values are estimated to be 2.10, 0.50 and 0.42 mM, respectively.^[6]

Cinnamic acid and cinnamyl alcohol are used as fragrance ingredients.^[7]

[**Solvent**]

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

[HPLC Method]^[8]

Mobile phase: Methanol-Acetonitrile-2% Glacial acetic acid H₂O=10:22:70 ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 254 nm.

[Storage]

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

[References]

- [1] Li Q F, Shi S L, Liu Q R, *et al. Int. J. Biochem. Cell Biol.*, 2008, 40(9):1918-29.
- [2] Liu L, Hudgins W R, Shack S, *et al. Int. J. Cancer*, 1995, 62(3):345–50.
- [3] Valiela I, Koumjian L, Swain T, *et al. Nature*, 1979, 280(280):55-7.
- [4] Ye S F, Yu J Q, Peng Y H, *et al. Plant & Soil*, 2004, 263(1):143-50.
- [5] Bolwell G P, Mavandad M, Millar D J, *et al. Phytochemistry*, 1988, 27(7):2109-17.
- [6] Yan S, Chen Q X, Qin W, *et al. Food Chem.*, 2005, 92(4):707-12.
- [7] Belsito D, Bickers D, Bruze M, *et al. Food Chem. Toxicol.*, 2012, 50 3(11):S1–S27.
- [8] Song Z, Bi K, Luo X. *J. Chromatogr. Sci.*, 2002, 40(40):198-200.

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