Natural Products

ChemFaces

Methyl cinnamate Datasheet

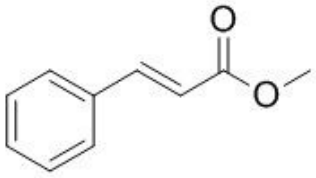
4th Edition (Revised in July, 2016)

[Product Information]

Name: Methyl cinnamate

Catalog No.: CFN98198

Cas No.: 103-26-4



Purity: >=98%

M.F: $C_{10}H_{10}O_2$

M.W: 162.19

Physical Description: Cryst.

Synonyms: 2-Propenoicacid,3-phenyl-,methylester;3-Phenyl-2-propenoicacimethylester; Methyl 3-phenyl-2-propenoate;FEMA 2698.

[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 Presl*.

[Biological Activity or Inhibitors]

Methyl cinnamate, an active component of Zanthoxylum armatum, is a widely used natural flavor compound with antimicrobial and tyrosinase inhibitor activities; methyl cinnamate has inhibitory effect on adipogenesis in 3T3-L1 preadipocytes, it can markedly suppress triglyceride accumulation associated with down-regulation of adipogenic transcription factor expression, including sterol regulatory element binding protein-1 (SREBP-1), peroxisome proliferator-activated receptor γ(PPARγ),and CCAAT/enhancer-binding protein α (C/EBPα).[1]

A significant delay and reduction in the severity of visible decay was observed in fruit exposed to antimicrobial vapors, carvacrol and methyl cinnamate vapors released from the films helped to maintain firmness and brightness of strawberries as compare to the untreated strawberries, the natural antimicrobial vapors also increased the total soluble phenolics content and antioxidant activity of fruit at the end of the storage period.[2]

Methyl cinnamate is a flavoring compound naturally found in the essential oil of Ocimum micranthum Willd. (EOOM), it appears involved in the relaxant effect of EOOM, the effects of methyl cinnamate recruit a decrease in the intracellular levels of Ca2+, being partially blunted by the inhibition of the protein tyrosine phosphatase; methyl cinnamate also exerts anti-inflammatory effects on the gastrointestinal tract of rats submitted to acetic acid-induced colitis. [3]

Methyl cinnamate has vasorelaxation in rat isolated aorta.[4]

[Solvent]

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

[HPLC Method][5]

Mobile phase: 0.01% Acetic acid in water- Meathanol,gradient elution ;

Flow rate: 0.4 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 280 nm.

[Storage]

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

[References]

[1] Chen Y Y, Lee M H, Hsu C C, *et al. J.Agr. Food Chem., 2012, 60(4):955-63.*

[2] Peretto G, Du W X, Avena-Bustillos R J, *et al. Postharvest Biol. Tec., 2014, 89(3):11-8.*

[3] Lima F J, Soares M A, Vasconcelos-Silva A A, *et al. Planta Med., 2013, 79(13):PF5-6.*

[4] Vasconcelos-Silva A A, Lima F J B D, Brito T S D, *et al. Clin. Exp.Pharmacol. P., 2014, 41(10):755-62.*

[5] Lomascolo A, Asther M, Navarro D, *et al. Lett. Appl. Microbiol., 2001, 32(4):262-7.*

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