Natural Products

ChemFaces

Ethyl caffeate Datasheet

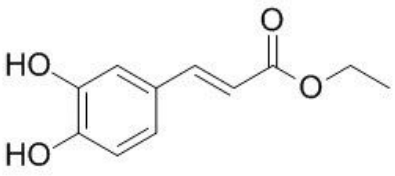
4th Edition (Revised in July, 2016)

[Product Information]

Name: Ethyl caffeate

Catalog No.: CFN97136

Cas No.: 66648-50-8



Purity: >98%

M.F: $C_{11}H_{12}O_4$

M.W: 208.21

Physical Description: Powder

Synonyms: Ethyl-3,4-Dihydroxycinnamate;2-Propenoicacid,3-(3,4-dihydroxyphenyl)-,ethy lester,(2E)-(9CI).

[Intended Use]

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

[Source]

The roots of *Ferula assafoetida L.*

[Biological Activity or Inhibitors]

Ethyl caffeate has antifibrotic activity, it can be considered as a promising natural compound for future application in chronic liver disease.[1]

Ethyl caffeate has anti-inflammatory activity, it can suppress NF‐κB activation and its downstream inflammatory mediators, iNOS, COX‐2, and PGE2 in vitro or in mouse skin.[2]

Ethyl caffeates is an inhibitor in complex with human pancreatic α-amylase, it may present an alternative therapeutic route for diabetes. [3]

Ethyl caffeate has antioxidant activity, is effective in preventing the development of oxidized flavor for at least 6 mo. or longe in the absence of added Cu in milk.[4]

Ethyl caffeate has neuroprotection against hydrogen peroxide and lipopolysaccharide induced injury via modulating arachidonic acid network and p38-MAPK signaling, it be considered as a therapeutic candidate for prevention and treatment of neurodegenerative diseases involving oxidative stress or/and inflammation.[5]

Ethyl caffeate can mediate inhibition of cell proliferation in SKOV-3 cells and the effect was accompanied by reduced expression of cell cycle-related proteins such as cyclin-dependent kinases and cyclins, resulting in pRb hypophosphorylation and G 1 phase cell cycle arrest; it markedly inhibits cell migration and invasion; these findings suggest further evaluation and development of ethyl caffeate for the treatment and prevention of ovarian cancer.[6]

[Solvent]

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

[HPLC Method][7]

Mobile phase: Acetonitrile-H2O=45:55 ;

Flow rate: 1.0 ml/min;

Column temperature: 35 ℃;

The wave length of determination: 324 nm.

[Storage]

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

[References]

[1] Boselli E, Bendia E, Lecce G D, *et al. J. Sep. Sci., 2009, 32(21):3585-90.*

[2] Chiang, Yi‐Ming, Lo, Chiu‐Ping, Chen, Yi‐Ping, *et al. Brit. J. Pharmacol., 2005, 146(3):352–63.*

[3] Williams L K, Li C, Withers S G, *et al. J. Med. Chem., 2012, 55(22):10177-86.*

[4] Jr A G, Rusoff L L, Skole R D. *J. Dairy Sci., 1952, 35(2):93-7.*

[5] Shen J N, Xu L X, Shan L, *et al. Curr. Alzheimer Res., 2015, 12(9):892-902.*

[6] Lee H N, Kim J K, Kim J H, *et al. Chem. Biol. Int., 2014, 219:151-8.*

[7] Xiang M, Su H, Hu J, *et al. J. Med. Plant Res., 2011, 5(9):1685-91.*

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