[ Product Information ]

Name: Piperine
Catalog No.: CFN99919
Cas No.: 94-62-2
Purity: >=99%
M.F: C_{17}H_{19}NO_3
M.W: 285.34
Physical Description: White powder
Synonyms: N-Piperoylpiperidin;(E,E)-1-[5-(1,3-Benzodioxol-5-yl)-1-oxo-2,4-pentadienyl]-piperidine.

[ Intended Use ]

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

[ Source ]

The fruits of Piper nigrum L.
[Biological Activity or Inhibitors]

Piperine, a major component of black pepper, inhibits drug-metabolizing enzymes in rodents and increases plasma concentrations of several drugs, including P-glycoprotein substrates (phenytoin and rifampin) in humans, it is an inhibitor of human P-glycoprotein and/or CYP3A4.[1]

Piperine, a known inhibitor of hepatic and intestinal glucuronidation.[2]

Piperine and curcumin are cancer preventive compounds.[3]

Piperine is cytotoxic towards Dalton’s lymphoma ascites (DLA) and Ehrlich ascites carcinoma (EAC) cells at a concentration of 250 µg/ml, piperine (1.14mg/dose/animal) can inhibit the solid tumor development in mice induced with DLA cells; suggests that piperine has immunomodulatory and antitumor activity. [4]

Supplementation with black pepper or the active principle of black pepper, piperine, has tissue lipid peroxidation, can reduce high-fat diet induced oxidative stress to the cells.[5]

Piperine has antidepressant like effects in chronic mild stress treated mice, up-regulation of the progenitor cell proliferation of hippocampus and cytoprotective activity might be mechanisms involved in the antidepressant-like effect of piperine, which may be closely related to the elevation of hippocampal brain-derived neurotrophic factor (BDNF) level.[6]

Administration of piperine appears to reverse preexisting high-fat diet (HFD)-induced hepatic steatosis and insulin resistance, probably by activation of adiponectin-AMPK signalling in mice. [7]

Piperine has anti-inflammatory, antinociceptive, and antiarthritic effects in human interleukin 1β-stimulated fibroblast-like synoviocytes and in rat arthritis models, thus, piperine should be further studied with regard to use either as a pharmaceutical or as a dietary supplement for the treatment of arthritis.[8]

Piperine shows a lower hepatoprotective potency than silymarin (a known hepatoprotective drug).[9]

[Solvent]

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.
[**HPLC Method**][10]

Mobile phase: Acetonitrile- H2O-Acetic acid=60:39.5:0.5;
Flow rate: 1.0 ml/min;
Column temperature: Room Temperature;
The wavelength of determination: 340 nm.

[**Storage**]

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

[**References**]


[**Contact**]

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