

Alpinetin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Alpinetin

Catalog No.: CFN98489

Cas No.: 36052-37-6

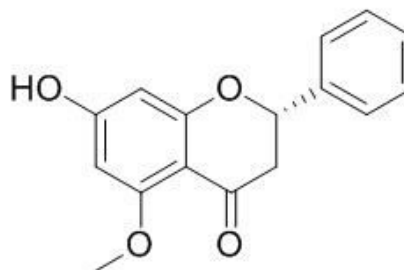
Purity: > 95%

M.F: C₁₆H₁₄O₄

M.W: 270.3

Physical Description: Powder

Synonyms: 7-Hydroxy-5-methoxyflavanone.



[Intended Use]

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

[Source]

The fruits of *Alpinia katsumadai*.

[Biological Activity or Inhibitors]

Alpinetin is a type of novel plant flavonoid derived from *Alpinia katsumadai* Hayata, possesses strong anti-hepatoma effects, can suppress HepG2 cell proliferation and arrested cells in the G0/G1 phase by up-regulating the expression levels of p-MKK7, and the antitumor effect of Alpinetin could be reversed by inhibiting the expression of MKK7; suggests that MKK7 may be a putative target for molecular therapy against hepatoma and Alpinetin could serve as a potential agent for the development of hepatoma therapy.^[1]

Alpinetin has antiproliferative effect in BxPC-3 pancreatic cancer cells possibly through the regulation of the Bcl-2 family and XIAP expression, release of cytochrome C and the activation of caspases, it may serve as a potential agent for the development of pancreatic cancer cell therapies.^[2]

Alpinetin and cardamonin have vascular effects to relax rat mesenteric arteries through multiple mechanisms; they induce both endothelium-dependent and -independent relaxation, the former is likely mediated by nitric oxide whereas the latter is probably mediated through nonselective inhibition of Ca²⁺ influx and intracellular Ca²⁺ release and inhibition of the protein kinase C-dependent contractile mechanism.^[3]

Alpinetin has anti-inflammatory properties, can activate PPAR- γ , thereby attenuate TLR4 expression and TLR4 mediated NF- κ B and MAPK activation and the release of pro-inflammatory cytokines, suggests that it may be a therapeutic agent against inflammatory diseases. ^[4]

Alpinetin has antioxidant effects, can protect LPS-induced kidney injury through activating Nrf2 and inhibiting TLR4 expression.^[5]

Alpinetin suppresses T-cell-mediated delayed-type hypersensitivity reaction in mice, could shock the activation of NF- κ B NFAT2 signal transduction pathways, indicates that it has potential effects in downregulating the immune system and might be developed as a useful immunosuppressive agent in treating undesired immune responses.^[6]

[Solvent]

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

[HPLC Method]^[7]

Mobile phase: Methanol-H₂O=70:30 ;

Flow rate: 1.0 ml/min;

Column temperature: 25 °C;

The wave length of determination: 300 nm.

[Storage]

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

[References]

- [1] Tang B O, Jian D U, Wang J, *et al. Oncol. Rep.*, 2012, 27(4):1090-6.
- [2] Du J, Tang B, Wang J, *et al. Int. J. Mol. Med.*, 2012, 29(4):607-12.
- [3] Wang Z T, Lau C W, Chan F L, *et al. J. Cardiovasc. Pharm.*, 2001, 37(5):596-606.
- [4] Hu K, Yang Y, Tu QY, *et al. Eur. J. Pharmacol.*, 2013, 721(1-3):96-102.
- [5] Huang Y, Zhou L S, Yan L, *et al. Int. Immunopharmacol.*, 2015, 28(2):1003-8.
- [6] Guan S, Fang B, Song B, *et al. Immunopharm. Immunot.*, 2014, 36(4):1-7.
- [7] Liu J, Feng Z, Wu YH . *Pharmacy Today*, 2009, 19(4):46-8.

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