

Pogostone Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Pogostone

Catalog No.: CFN90555

Cas No.: 23800-56-8

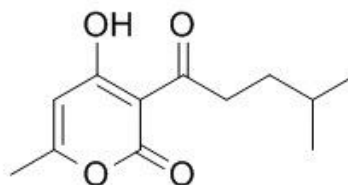
Purity: > 98%

M.F: C₁₂H₁₆O₄

M.W: 224.26

Physical Description: Powder

Synonyms: 4-Hydroxy-6-methyl-3-(4-methyl-1-oxopentyl)-2H-pyran-2-one.



[Intended Use]

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

[Source]

The herbs of *Pogostemon cablin* (Blanco) Benth.

[Biological Activity or Inhibitors]

Pogostone (PO), a natural product isolated from *Pogostemon cablin* (Blanco) Benth, PO shows potent in vitro activity against clinical *Candida* spp. , PO and the reference drug voriconazole (VRC) are equally effective against all the fluconazole-resistant *Candida albicans* strains, with MIC ranging from 3.1 µg/ml to 50 µg/ml; demonstrates the potential of PO as a promising candidate for the treatment of *Candida* infections, particularly for vulvovaginal candidiasis.^[1]

Pogostone can exert a gastro-protective effect against gastric ulceration, and the underlying mechanism may be associated with the stimulation of PGE₂, improvement of antioxidant and anti-inflammatory status, as well as preservation of NP-SH.^[2]

Pogostone possesses strong insecticidal activities, especially antifeedant, larvicidal, growth inhibitory and pupicidal activities, against *S. litura* and *S. exigua* , PO may partly account for the insecticidal activity of patchouli oil and may be a promising candidate for the control of agricultural insects. ^[3]

Pogostone has anti-fungal activity.^[4]

Pogostone has anti-inflammatory effect , the action mechanism of the anti-inflammatory activity of PO is partly dependent on inhibition of the activation of NF-κB and the phosphorylation of JNK and p38 MAPK, PO is a promising anti-inflammatory agent worthy of further development into a pharmaceutical drug for the treatment of septic shock.^[5]

Pogostone shows anti-colorectal tumor effects by inducing autophagy and apoptosis involving PI3K/Akt/mTOR axis, thus, pogostone may be a promising lead compound to be further developed for cancer therapy.^[6]

Pogostone can inhibit the wrinkle formation and skin laxity mainly by repairing collagen and elastic fibers, it also can prevent UV-induced skin photoaging through inhibiting oxidative stress and inflammation responses; it can down-regulate the levels of MMP-1 and MMP-3 in UV-irradiated mice, it is regarded as a feasible candidate agent for anti-photoaging cosmetics.^[7]

[Solvent]

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

[HPLC Method]^[8]

Mobile phase: 0.2% Formic acid in water- Acetonitrile=35:65 ;

Flow rate: 0.8 ml/min;

Column temperature: 30 °C;

The wave length of determination: 310 nm.

[Storage]

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

[References]

- [1] Li Y C, Liang H C, Chen H M, *et al. Phytomedicine*, 2012, 20(1):77-83.
- [2] Chen H, Liao H, Liu Y, *et al. Fitoterapia*, 2015, 100:110-7.
- [3] Huang S H, Xian J D, Kong S Z, *et al. Pest Manag. Sci.*, 2014, 70(3):510-6.
- [4] Yang Z X, Xie P S. *Chinese Science Bulletin*, 1977, 22(7):318-20.
- [5] Li Y C, Xian Y F, Su Z R, *et al. J. Ethnopharmacol.*, 2014, 157:212-21.
- [6] Cao Z X, Yang Y T, Yu S, *et al. J. Ethnopharmacol.*, 2016.07.028.
- [7] Wang X F, Huang Y F, Wang L, *et al. Exp. Gerontol.*, 2016, 77:76-86.
- [8] Zhang Y M, Chen H M, Wu X L, *et al. Chinese Journal of Experimental Traditional Medical Formulae*, 2013, 19(16):160-3.

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