

Isoalantolactone Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Isoalantolactone

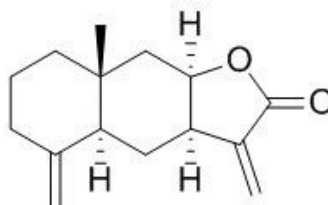
Catalog No.: CFN98107

Cas No.: 470-17-7

Purity: >=98%

M.F: C₁₆H₂₀O₂

M.W: 232.32



Physical Description: Cryst.

Synonyms: 4'-O-β-D-glucosyl-5-O-methylvisamminol; (S)-2-[1-(beta-D-Glucopyranosyloxy)-1-methylethyl]-2,3-dihydro-4-methoxy-7-methyl-5H-furo[3,2-g][1]benzopyran-5-one.

[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 *Inula helenium* L.

[Biological Activity or Inhibitors]

Isoalantolactone, a sesquiterpene lactone compound possesses antifungal, antibacteria, antihelminthic and antiproliferative activities; isoalantolactone also can inhibit growth and induce apoptosis in pancreatic cancer cells and did not induce any acute or chronic toxicity in liver and kidneys of CD1 mice at dose of 100 mg/kg body weight, therefore, isoalantolactone may be a safe chemotherapeutic candidate for the treatment of human pancreatic carcinoma.^[1]

Isoalantolactone, alantolactone, and their amine adducts induce apoptosis and act as alkylating agents.^[2]

Isoalantolactone exhibits repellent and toxic activities against rice weevil [*Sitophilus oryzae* (L.) (*Coleoptera: Curculionidae*)] based on a food preference apparatus and a poisoned food technique, it shows strong phytotoxic effects on seed germination and seedling growth of wheat at a concentration of 500 µg ml⁻¹ for 60 h; however, this side effect could be reduced markedly by shortening the treating time at this concentration; indicates that isoalantolactone may be considered for wheat seeds preservation in control of storage weevils. ^[3]

Isoalantolactone can markedly inhibit the expression of α -toxin in *S. aureus* at very low concentrations, furthermore, the in vivo data indicate that treatment with isoalantolactone protects mice from *S. aureus* pneumonia.^[4]

[Solvent]

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

[HPLC Method]^[5]

Mobile phase: Acetonitrile- 0.1% Phosphoric acid in water, gradient elution;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 225 nm.

[Storage]

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

[References]

- [1] Khan M, Ding C, Rasul A, *et al. Int.J.Biol.Sci.*, 2012, 8(4):533-47.
- [2] Nicholas J. Lawrence, Alan T. McGown, Jane Nduka, *et al. ChemInform*, 2001, 11(18): 429-31.
- [3] Liu C H, Mishra A K, Tan R X. *Crop Prot.*, 2006, 25(5):508-11.
- [4] Qiu J, Luo M, Wang J, *et al. FEMS Microbiol. Lett.*, 2011, 324(2):147-55.
- [5] Wang J, Zhao Y, Zhang M, *et al. J. Chromatogr. Sci.*, 2015, 53(4):526-30.

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