

Liriodenine Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Liriodenine

Catalog No.: CFN98715

Cas No.: 475-75-2

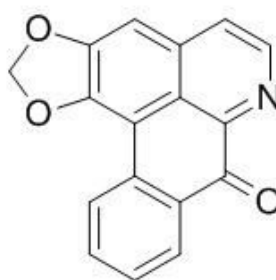
Purity: > 95%

M.F: C₁₇H₉NO₃

M.W: 275.3

Physical Description: Yellow powder

Synonyms: 8H-[1,3]Benzodioxolo[6,5,4-de]benzo[g]quinolin-8-one.



[Intended Use]

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

[Source]

The barks of *Liriodendron chinense* (Hemsl.) Sarg.

[Biological Activity or Inhibitors]

Liriodenine , an active component of the anticancer traditional Chinese medicine (TCM),

was isolated from *Zanthoxylum nitidum*, its reactions with Pt(II) and Ru(II) afforded three metal complexes: cis-[PtCl₂(L)] , cis-[PtCl₂(L)(DMSO)] , and cis-[RuCl₂(L)(DMSO)₂].

1.5H₂O.^[1]

Liriodenine is a potent inhibitor of topoisomerase II (EC 5.99.1.3) both in vivo and in vitro.^[2]

Liriodenine has antibacterial and antifungal activity. ^[3]

Liriodenine can inhibit the proliferation of human hepatoma cell lines by blocking cell cycle progression and nitric oxide-mediated activation of p53 expression.^[4]

Liriodenine can suppress ventricular arrhythmias induced by myocardial ischaemia reperfusion, through inhibition of Na⁺ and the Ito channel.^[5]

Liriodenine has antimuscarinic properties, the antimuscarinic characteristics are similar to those of 4-diphenylacetoxy-N-methylpiperidine (4-DAMP, smooth muscle selective M₃ antagonist), it may act as a selective M₃ receptor antagonist in canine tracheal smooth muscle.^[6]

Liriodenine exhibits a broad spectrum of antifungal activity and great potential to develop as an environmentally benign fungicide for the preservation of lignocellulosic materials, IC₅₀ values of liriodenine against the white-rot fungi *Lenzites betulina* and *Trametes versicolor* are 0.76 and 3.50 ug/mL, respectively; IC₅₀ values of liriodenine against the brown-rot fungi *Laetiporus sulphureus*, *Gloeophyllum trabeum*, and *Fomitopsis pinicola* are all lower than 2.0 ug/mL.^[7]

[Solvent]

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

[HPLC Method]^[8]

Mobile phase: 30-95% Methanol in water with 0.01% trifluoroacetic acid, gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 254 nm.

[Storage]

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

[References]

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- [4] Hsieh T J, Liu T Z, Chern C L, *et al. Food Chem. Toxicol.* , 2005, 43(7):1117-26.
- [5] Chang G J, Wu M H, Wu Y C, *et al. Brit. J. Pharmacol.*, 1996, 00(7):1571-83.
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- [7] Wu C C, Wu C L, Huang S L, *et al. Wood Sci. Technol.* 2012, 46(4):737-47.
- [8] Graziose R, Rathinasabapathy T, Lategan C, *et al. J.Ethnopharmacol.*, 2011, 133(1): 26-30.

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