

Atractylenolide I Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Atractylenolide I

Catalog No.: CFN99944

Cas No.: 73069-13-3

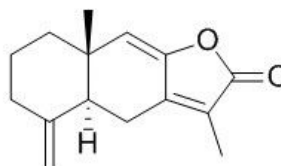
Purity: >=98%

M.F: C₁₅H₁₈O₂

M.W: 230.30

Physical Description: Powder

Synonyms: (4aS,8aS)-4a,5,6,7,8,8a-Hexahydro-3,8a-dimethyl-5-methylenenaphtho[2,3-b]furan-2(4H)-one.



[Intended Use]

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

[Source]

The rhizome of *Atractylodes macrocephala* Koidz.

[Biological Activity or Inhibitors]

Atractylenolide I and atractylenolide III have antiinflammatory activity, the mechanism of them may be, at least in part, by the inhibition of TNF- α and NO production.^[1]

Atractylenolide I can dose-dependently inhibit the production of nitric oxide (NO), tumor necrosis factor- α (TNF- α), interleukin-1 β (IL-1 β), interleukin-6 (IL-6), vascular endothelial growth factor (VEGF) and placenta growth factor (PIGF) activity in the flue of mouse air pouch and the peritoneal macrophages stimulated by lipopolysaccharide (LPS); suggests that atractylenolide I displays a potent inhibitory effect on angiogenesis by a set of down-regulatory actions of NO, TNF- α , IL-1 β , IL-6, VEGF and PIGF in chronic inflammation.^[2]

Atractylenolide I has pro-oxidant and cytotoxic activities in human promyeloleukemic HL-60 cells, it may work via Cu,Zn-SOD inhibition in HL-60 cells to induce apoptosis and bring about cytotoxicity. ^[3]

Atractylenolide I has significant antitumor activity in lung carcinoma cells, and the possible mechanism of action may be related to apoptosis induced by atractylenolide I via a mitochondria-mediated apoptosis pathway.^[4]

[Solvent]

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

[HPLC Method]^[5]

Mobile phase: Acetonitrile-H₂O= 55:45 ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 220 nm.

[Storage]

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

[References]

- [1] Li C Q, He L C, Jin J Q. *Phytother. Res.*, 2007, 21(4):347-53.
- [2] Wang C, Duan H, He L. *Eur. J. Pharmacol.*, 2009, 612(1-3):143-52.
- [3] Wang C C, Lin S H, Hou W C. *Food Chem. Toxicol.* , 2006, 44(8):1308-15.
- [4] Liu H, Zhu Y, Zhang T, *et al. Molecules*, 2013, 18(11):13357-68.
- [5] Li C Q, He L C, Hu Y J, *et al. Asian J. Pharmacodyn. Pharmacokinet*, 2007; 7(4):283-8.

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