

Arctigenin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Arctigenin

Catalog No.: CFN99534

Cas No.: 7770-78-7

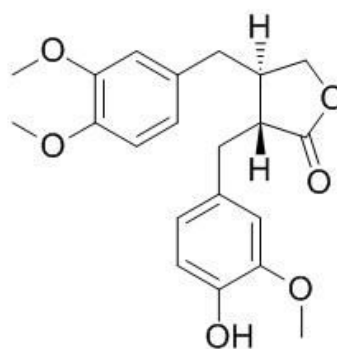
Purity: > 98%

M.F: C₂₁H₂₄O₆

M.W: 372.41

Physical Description: Powder

Synonyms: (3R,4R)-4-[(3,4-dimethoxyphenyl)methyl]-3-[(4-hydroxy-3-methoxyphenyl)methyl]-2-oxolanone.



[Intended Use]

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

[Source]

The root of *Arctium lappa* L.

[Biological Activity or Inhibitors]

Arctigenin, naturally occurring in *Bardanae fructus*, *Saussurea medusa*, *Arctium lappa* L., *Torreya nucifera* and *Ipomea cairica*, is a phenylpropanoid dibenzylbutyrolactone lignan with antioxidant and anti-inflammatory activities, it can potently inhibit the activity of MKK1 in vitro with the IC(50) value of 1 nM, and inhibit activation of MAP kinases including ERK1/2, p38 kinase and JNK through the inhibition of MKK activities, leading to AP-1 inactivation, which might, at least in part, contribute to the inhibition of TNF- α production, inhibits expression via suppressing JAK-pathway in macrophages.^[1,2]

Arctigenin blocks the activation of Akt induced by glucose starvation, which is a key process in the tolerance exhibits by cancer cells to glucose starvation, suggests arctigenin could be an antitumor agent having the ability to eliminate the tolerance of cancer cells to nutrient starvation.^[3]

Arctigenin has a glucose-lowering effect, is a potent indirect activator of AMPK via inhibition of respiratory complex I, with beneficial effects on metabolic disorders in ob/ ob mice, suggests the potential value of arctigenin as a possible treatment of type 2 diabetes.^[4]

[Solvent]

Chloroform, Dichloromethane, DMSO, Acetone.

[HPLC Method]^[5]

Mobile phase: Acetonitrile: H₂O=50:50;

Flow rate: 1.0 ml/min;

Column temperature: 30 °C;

The wave length of determination: 210 nm.

[Storage]

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

[References]

- [1] Min K C, Jang Y P, Kim Y C, *et al. Int. Immunopharmacol.*, 2004, 4(10-11):1419-29.
- [2] Kou X, Qi S, Dai W, *et al. Int. Immunopharmacol.*, 2011, 11(8):1095-102.
- [3] Awale S, Lu J, Kalauni S K, *et al. Cancer Res.*, 2006, 66(3):1751-7.
- [4] Huang S L, Yu R T, Gong J, *et al. Diabetologia*, 2012, 55(5):1469-81.
- [5] Yu R T, Luo Z M, Zhang X W, *et al. Chinese Journal of Pharmaceutical Analysis*, 2010(2):294-6.

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