

Certificate of Analysis

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Product Name: Arctigenin

Catalog No.: 1777

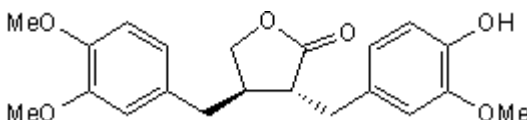
Batch No.: 3

CAS Number: 7770-78-7

IUPAC Name: (3*R*,4*R*)-4-[(3,4-Dimethoxyphenyl)methyl]dihydro-3-[(4-hydroxy-3-methoxyphenyl)methyl]-2(3*H*)-furanone

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₁H₂₄O₆
Batch Molecular Weight: 372.42
Physical Appearance: White solid
Solubility: ethanol to 25 mM with gentle warming
 DMSO to 100 mM
Storage: Desiccate at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.6% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	67.73	6.5	
Found	67.79	6.56	

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Antioxidant, anti-inflammatory, antiproliferative and antiviral agent. Inhibits LPS-induced iNOS expression via inhibition of IκBα phosphorylation and p65 nuclear translocation (IC₅₀ = 10 nM). Inhibits HIV-1 replication *in vitro*. Also potently inhibits MKK1 (MEK1) (IC₅₀ = 0.5 nM) and provides neuroprotection by binding to kainate receptors.

Physical and Chemical Properties:

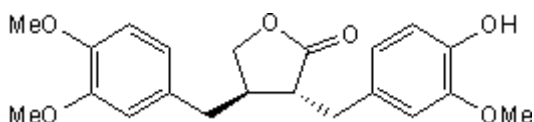
Batch Molecular Formula: C₂₁H₂₄O₆

Batch Molecular Weight: 372.42

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



References:

Schroder et al (1990) Differential *in vitro* anti-HIV activity of natural lignans. *Z.Naturforsch.C.* **45** 1215. PMID: 1965681.

Cho et al (2002) Potent inhibition of lipopolysaccharide-inducible nitric oxide synthase expression by dibenzylbutyrolactone lignans through inhibition of I-κBα phosphorylation and of p65 nuclear translocation. *Int.Immunopharmacol.* **2** 105. PMID: 11789661.

Jang et al (2002) Arctigenin protects cultured cortical neurons from glutamate-induced neurodegeneration by binding to kainate receptor. *J.Neurosci.Res.* **68** 233. PMID: 11948668.

Cho et al (2003) Arctigenin, a potent inhibitor of MKK1, inhibits lipopolysaccharide (LPS)-inducible nitric oxide synthase expression through inhibition of I-κBα phosphorylation and of p65 nuclear translocation. *Exp.Biol.Abstr.* 152.2.

Storage: Desiccate at -20°C

Solubility & Usage Info:

ethanol to 25 mM with gentle warming
DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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