

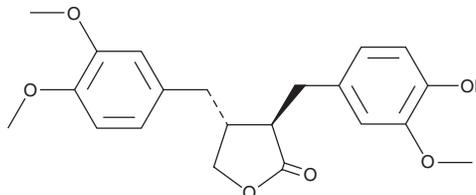
PRODUCT INFORMATION



Arctigenin

Item No. 14913

CAS Registry No.: 7770-78-7
Formal Name: (3R,4R)-4-[(3,4-dimethoxyphenyl)methyl]dihydro-3-[(4-hydroxy-3-methoxyphenyl)methyl]-2(3H)-furanone
MF: C₂₁H₂₄O₆
FW: 372.4
Purity: ≥95%
UV/Vis.: λ_{max}: 205, 231, 281 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Arctigenin is supplied as a crystalline solid. A stock solution may be made by dissolving the arctigenin in the solvent of choice, which should be purged with an inert gas. Arctigenin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of arctigenin in these solvents is approximately 0.5, 12, and 20 mg/ml, respectively.

Arctigenin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, arctigenin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Arctigenin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Arctigenin is an extract from *A. lappa*, a burdock plant traditionally used in Japanese Kampo medicine for its antioxidant, anti-inflammatory, antiproliferative, and antiviral activity. At 0.1 μM, arctigenin can block the activation of Akt induced by glucose starvation in pancreatic cancer PANC-1 cells, which is a key process in the tolerance exhibited by cancer cells to glucose starvation.¹ It has potent *in vitro* antiviral activities against influenza A virus and shows neuroprotective effects against an experimental mouse model of Japanese encephalitis.^{2,3} Arctigenin also demonstrates a therapeutic effect in ischemic stroke treatment of middle cerebral artery occluded rats by suppressing microglia activation and decreasing IL-1β and TNF-α expression.⁴

References

1. Awale, S., Lu, J., Kalauni, S.K., *et al.* Identification of arctigenin as an antitumor agent having the ability to eliminate the tolerance of cancer cells to nutrient starvation. *Cancer Res.* **66(3)**, 1751-1757 (2006).
2. Hayashi, K., Narutaki, K., Nagaoka, Y., *et al.* Therapeutic effect of arctigenin and arctigenin in immunocompetent and immunocompromised mice infected with influenza A virus. *Biol. Pharm. Bull.* **33(7)**, 1199-1205 (2010).
3. Swarup, V., Ghosh, J., Mishra, M.K., *et al.* Novel strategy for treatment of Japanese encephalitis using arctigenin, a plant lignan. *J. Antimicrob. Chemother.* **61(3)**, 679-688 (2008).
4. Fan, T., Jiang, W.L., Zhu, J., *et al.* Arctigenin protects focal cerebral ischemia-reperfusion rats through inhibiting neuroinflammation. *Biol. Pharm. Bull.* **35(11)**, 2004-2009 (2012).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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