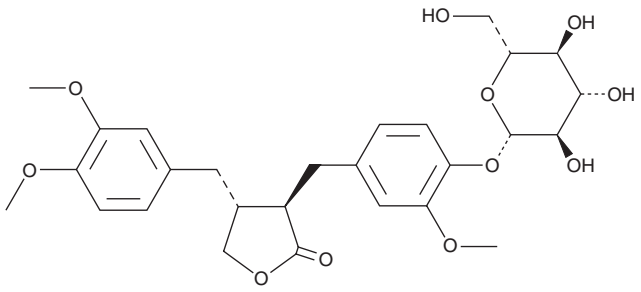
PRODUCT INFORMATION

Arctiin

Item No. 15375

CAS Registry No.:	20362-31-6
Formal Name:	(3R,4R)-4-[(3,4-dimethoxyphenyl)methyl]-3-[[4-(β-D-glucopyranosyloxy)-3-methoxyphenyl]methyl]dihydro-2(3H)-furanone
Synonyms:	Arctigenin-4-Glucoside, NSC 315527
MF:	$C_{27}H_{34}O_{11}$
FW:	534.6
Purity:	≥98%
UV/Vis.:	λ_{max}: 229, 280 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

Arctiin is supplied as a crystalline solid. A stock solution may be made by dissolving the arctiin in the solvent of choice, which should be purged with an inert gas. Arctiin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of arctiin in ethanol is approximately 2 mg/ml and approximately 30 mg/ml in DMSO and DMF.

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

Description

Arctiin is the major active lignin in fruits of the burdock plant *A. lappa*. It demonstrates potent antiviral activity against influenza A virus and anti-inflammatory effects by decreasing the production of nitric oxide and pro-inflammatory cytokines.[1,2] Arctiin is metabolized by human intestinal bacteria into various bioactive metabolites including arctigenin (Item No. 14913) and enterolactone (Item No. 10112), which respectively exhibit growth inhibitory and growth promoting activity in MCF-7 breast cancer cells at 10 µM.[3]

References

1. Hayashi, K., Narutaki, K., Nagaoka, Y., *et al.* Therapeutic effect of arctiin and arctigenin in immunocompetent and immunocompromised mice infected with influenza A virus. *Biol. Pharm. Bull.* **33(7)**, 1199-1205 (2010).
2. Lee, S., Shin, S., Kim, H., *et al*. Anti-inflammatory function of arctiin by inhibiting COX-2 expression *via* NF-κB pathways. *J. Inflamm. (Lond)* **8(1)**, 16 (2011).
3. Xie, L.-H., Ahn, E.-M., Akao, T., *et al*. Transformation of arctiin to estrogenic and antiestrogenic substances by human intestinal bacteria. *Chem. Pharm. Bull. (Tokyo)* **51(4)**, 378-384 (2003).

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