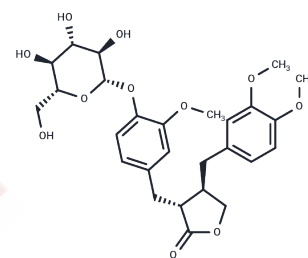


Arctiin

Chemical Properties

CAS No. :	20362-31-6
Formula:	C ₂₇ H ₃₄ O ₁₁
Molecular Weight:	534.55
Storage:	Keep away from moisture, Store at low temperature Powder: -20°C for 3 years In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



Biological Description

Description	Arctiin (Arctigenin-4-glucoside) acts on an agonists of the adiponectin receptor 1 with anti-cancer effects.
Targets(IC50)	NF-κB, Adiponectin Receptor
In vitro	Arctiin induces growth inhibition and dephosphorylates the tumor-suppressor retinoblastoma protein in human immortalized keratinocyte HaCaT cells. The growth inhibition caused by arctiin is associated with the downregulation of cyclin D1 protein expression. The arctiin-induced suppression of cyclin D1 protein expression occurs in various types of human tumor cells, including osteosarcoma, lung, colorectal, cervical and breast cancer, melanoma, transformed renal cells and prostate cancer[1].
In vivo	Arctiin has anti-cancer properties in animal models. arctiin has a remarkable anti-tumor-promoting effect as seen in a two-stage carcinogenesis test of mouse skin tumors induced by 7,12-dimethylbenz[α]anthracene(DMBA) as an initiator and 12-Otetradecanoyl phorbol-13-acetate (TPA) as a promoter by topical and oral administration. It also has a protective effect on 2-amino-1-methyl-6- phenylimidazo [4,5-β]pyridine (PhIP)-induced carcinogenesis particularly in the mammary gland during the promotion period[1]. Arctiin is orally effective against either IFV-inoculated normal or 5-fluorouracil (5-FU)-treated mice[3].
Cell Research	HaCaT cells are plated at 1×10 ⁵ cells in 25-mm-diameter dishes. Twenty-four hours after plating, various concentrations of arctiin are added to the culture medium. From the first to the third day after plating, the number of viable cells is counted by the trypan blue dye exclusion test.(Only for Reference)

Solubility Information

Solubility	H ₂ O: 37 mg/mL (69.22 mM), Sonication is recommended. Ethanol: 93 mg/mL (173.98 mM), Sonication is recommended. DMSO: 50 mg/mL (93.54 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (3.74 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one.</i>

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In vivo Formulation	<i>Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.8707 mL	9.3537 mL	18.7073 mL
5 mM	0.3741 mL	1.8707 mL	3.7415 mL
10 mM	0.1871 mL	0.9354 mL	1.8707 mL
50 mM	0.0374 mL	0.1871 mL	0.3741 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Matsuzaki Y, et al. *Oncol Rep.* 2008, 19(3):721-7.

Liu Y, Hou M, Pan Z, et al. Arctiin-reinforced antioxidant microcarrier antagonizes osteoarthritis progression. *Journal of Nanobiotechnology.* 2022, 20(1): 1-20

Hayashi K, et al. *Biol Pharm Bull.* 2010, 33(7):1199-205.

Sun Y, et al. *PLoS One.* 2013, 8(5):e63354.

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