

Neochamaejasmine A

Chemical Properties

CAS No.:	90411-13-5
Formula:	C ₃₀ H ₂₂ O ₁₀
Molecular Weight:	542.5
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

Biological Description

Description	Neochamaejasmin A can inhibit cellular (3)H-thymidine incorporation (IC ₅₀ 12.5 microg/mL) and subsequent proliferation of human prostate cancer LNCaP cells, it blocks cell cycle progression at the G1 phase by activating the p21 protein and ultimately promoting the Fas-caspase 8-caspase 3 apoptotic machinery.
Targets(IC ₅₀)	Caspase: None p21: None
In vitro	Neochamaejasmine A (1), a biflavonoid isolated from the roots of a traditional Chinese medicine, <i>Stellera chamaejasme</i> L., was shown to inhibit cellular (3)H-thymidine incorporation (IC ₅₀ 12.5 microg/mL) and subsequent proliferation of human prostate cancer LNCaP cells. METHODS AND RESULTS: Treatment of LNCaP cells with low doses of 1 (< or =6.25 microg/mL) suppressed DNA-binding activities of the transcription factors NFkappaB and AP-1 to the promoter of cyclin D and also inhibited expression of the cell cycle regulatory proteins cyclin D, proliferating cell nuclear antigen, and nucleolin, thus arresting cells in G1 phase of the cell cycle. A lengthy exposure with higher doses of 1 (> or =12.5 microg/mL) revealed the production of reactive oxygen species, dissipation of the mitochondrial membrane potential, up-regulation of cyclin-dependent kinase inhibitor p21, and induction of cell apoptosis. An aggregation of Fas-procaspase 8-procaspase 3 and p21-procaspase 3 proteins by coimmunoprecipitation, immunoblotting analysis, and MALDI-mass spectrometry indicated the involvement of Fas and p21 in 1-mediated cytotoxicity, and pretreatment of cells with antisense FasL oligonucleotides partially abolished apoptosis. CONCLUSIONS: Thus, 1 blocked cell cycle progression at the G1 phase by activating the p21 protein and ultimately promoting the Fas-caspase 8-caspase 3 apoptotic machinery.

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.843 mL	9.217 mL	18.433 mL
5 mM	0.369 mL	1.843 mL	3.687 mL
10 mM	0.184 mL	0.922 mL	1.843 mL
50 mM	0.037 mL	0.184 mL	0.369 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Involvement of p21 and FasL in induction of cell cycle arrest and apoptosis by neochamaejasmin A in human prostate LNCaP cancer cells. J. Nat. Prod., 2008, 71(5):842-6.

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