

Altholactone

Chemical Properties

CAS No.:	65408-91-5
Formula:	C13H12O4
Molecular Weight:	232.2
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

Biological Description

Description	Altholactone may be a potential antimicrobial agent, particularly in ciprofloxacin-refractory <i>S. aureus</i> and <i>E. faecalis</i> infections. It can inhibit the growth of various types of cancer cells through inducing apoptosis via oxidative stress, including bladder cancer, colon carcinoma cells.
Targets(IC ₅₀)	Akt: None Antifection: None Bcl-2: None Caspase: None p38 MAPK: None p53: None ROS: None
In vitro	Resistance of colorectal cancer (CRC) to the available chemotherapy reveals the demand for identification of new anticancer agents. We evaluated the antitumour potential of Altholactone, a naturally occurring bioactive compound isolated from <i>Goniothalamus</i> spp. (Annonaceae) hooks, against CRC cells. METHODS AND RESULTS: Antitumour activity of Altholactone was measured using 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide assay and the propidium iodide method. Apoptosis mediators involved were assessed using biochemical inhibitors and Western blotting analysis. Results revealed that Altholactone induced varying degrees of apoptosis in CRC cells but not in normal fibroblasts. Dissection of the Altholactone-induced apoptotic signalling pathway revealed that Altholactone activated caspase-dependent and -independent apoptotic pathways. Activation of caspase-4 appeared to be the initiating event in the caspase-dependent apoptotic pathway. Pre-treatment of CRC cells with the antioxidant N-acetylcysteine (NAC) significantly inhibited activation of caspase-4 and Altholactone-induced apoptosis. CONCLUSIONS: These results indicate that Altholactone induces selective cytotoxicity against colon carcinoma cells and warrants further clinical evaluation.

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	4.307 mL	21.533 mL	43.066 mL
5 mM	0.861 mL	4.307 mL	8.613 mL
10 mM	0.431 mL	2.153 mL	4.307 mL
50 mM	0.086 mL	0.431 mL	0.861 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. Altholactone induces apoptotic cell death in human colorectal cancer cells. *Phytother Res.* 2012 Jun;26(6):926-31.
2. Altholactone displays promising antimicrobial activity. *Molecules.* 2011 Jun 3;16(6):4560-6.

Inhibitors · Natural Compounds · Compound Libraries

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