

Certificate of Analysis

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Product Name: Alantolactone

Catalog No.: 4490

Batch No.: 3

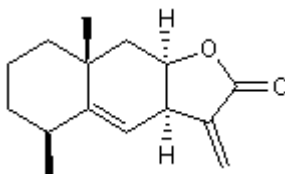
CAS Number: 546-43-0

EC Number: 208-899-3

IUPAC Name: (3a*R*,5*S*,8a*R*,9a*R*)-3a,5,6,7,8,8a,9,9a-Octahydro-5,8a-dimethyl-3-methylenenaphtho[2,3-*b*]furan-2(3*H*)-one

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₅H₂₀O₂
Batch Molecular Weight: 232.32
Physical Appearance: White solid
Solubility: DMSO to 100 mM
ethanol to 100 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.7 (Ethyl acetate:Petroleum ether [1:9])
HPLC: Shows 99.2% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Optical Rotation: [α]_D = +221.5 (Concentration = 1, Solvent = Ethanol)
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	77.55	8.68	
Found	77.62	8.74	

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Sesquiterpene lactone. Induces activin/SMAD3 signaling and disrupts Cripto-1/activin receptor type II A interaction. Displays antiproliferative activity in human colon adenocarcinoma HCT-8 cells.

Physical and Chemical Properties:

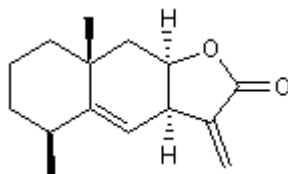
Batch Molecular Formula: C₁₅H₂₀O₂

Batch Molecular Weight: 232.32

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



References:

Dupuis & Brisson *et al* (1976) Toxic effect of alantolactone and dihydroalantolactone in *in vitro* cultures of leukocytes. *Chem.Biol.Interact.* **15** 205. PMID: 1000726.

Pal *et al* (2010) Activation of caspases and poly (ADP-ribose) polymerase cleavage to induce apoptosis in leukemia HL-60 cells by *Inula racemosa*. *Toxicol.In Vitro.* **24** 1599. PMID: 20600805.

Shi *et al* (2011) Alantolactone inhibits cell proliferation by interrupting the interaction between Cripto-1 and activin receptor type II A in activin signaling pathway. *J.Biomol.Screen.* **16** 525. PMID: 21378277.

Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 100 mM
ethanol to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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