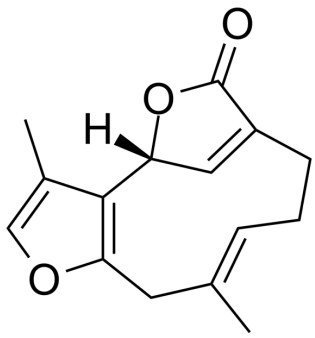
Linderalactone

Cat. No.:	HY-N0781
CAS No.:	728-61-0
Molecular Formula:	$C_{15}H_{16}O_3$
Molecular Weight:	244.29
Target:	Apoptosis
Pathway:	Apoptosis
Storage:	-20°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 33.33 mg/mL (136.44 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	4.0935 mL	20.4675 mL	40.9350 mL
	5 mM	0.8187 mL	4.0935 mL	8.1870 mL
	10 mM	0.4093 mL	2.0467 mL	4.0935 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (10.23 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (10.23 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Linderalactone is an important sesquiterpene lactone isolated from Lindera aggregata. Linderalactone inhibits cancer growth by modulating the expression of apoptosis-related proteins and inhibition of JAK/STAT signalling pathway. Linderalactone also inhibits the proliferation of the lung cancer A-549 cells with an IC_{50} of 15 μM[1][2].

In Vitro

Linderalactone (0-100 μM; 24 hours; A549 cells) treatment inhibits the growth of A549 cells concentration-dependently. The IC_{50} of linderalactone is 15 μM[1].
Linderalactone (7.5-30 μM; A549 cells) treatment induces apoptosis in A549 cells in a dose-dependent manner[1].
Linderalactone (7.5-30 μM; 24 hours; A549 cells) treatment induces G2/M cell cycle arrest of A549 cells dose-dependently[1].
Linderalactone (7.5-30 μM; A549 cells) inhibits the expression of STAT1, JAK1 and JAK2. Linderalactone could also inhibit the phosphorylation of pSTAT1, pSTAT-2, pJAK1 and pJAk2[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]	
Cell Line:	Lung cancer A549 cells
Concentration:	0 μM, 1.6 μM, 3.2 μM, 6.25 μM, 12.5 μM, 25 μM, 50 μM, 100 μM
Incubation Time:	24 hours
Result:	Inhibited the growth of A549 cells concentration-dependently.

Apoptosis Analysis[1]	
Cell Line:	Lung cancer A549 cells
Concentration:	7.5 μM, 15 μM, 30 μM
Incubation Time:	
Result:	Induced apoptosis in A549 cells in a dose-dependent manner.

Cell Cycle Analysis[1]	
Cell Line:	Lung cancer A549 cells
Concentration:	7.5 μM, 15 μM, 30 μM
Incubation Time:	24 hours
Result:	Induced G2/M cell cycle arrest.

Western Blot Analysis[1]	
Cell Line:	Lung cancer A549 cells
Concentration:	7.5 μM, 15 μM, 30 μM
Incubation Time:	
Result:	Inhibited the JAK/STAT pathway in A549 cells.

CUSTOMER VALIDATION

- Int Immunopharmacol. 124, Part B, November 2023, 110984

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REFERENCES

[1]. Deng Y, et al. Linderalactone inhibits human lung cancer growth by modulating the expression of apoptosis-related proteins, G2/M cell cycle arrest and inhibition of JAK/STAT signalling pathway. J BUON. 2019 Mar-Apr;24(2):566-571.

[2]. Qinghua Sun, et al. Preparative Isolation and Purification of Linderalactone and Lindenenol from Radix linderae by HSCCC. Journal of Liquid Chromatography & Related Technologies. Aug 2005:113-121.

Caution: Product has not been fully validated for medical applications. For research use only.

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