Curzerene

Cat. No.: HY-N1963

CAS No.: 17910-09-7

Molecular Formula: $C_{15}H_{20}O$

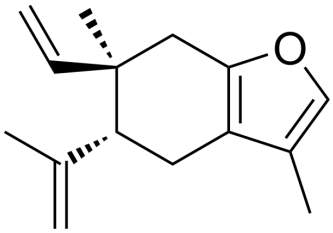
Molecular Weight: 216.32

Target: Glutathione S-transferase; Apoptosis

Pathway: Metabolic Enzyme/Protease; Apoptosis

Storage: -20°C, protect from light, stored under nitrogen

* The compound is unstable in solutions, freshly prepared is recommended.



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (1155.70 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	4.6228 mL	23.1139 mL	46.2278 mL
	5 mM	0.9246 mL	4.6228 mL	9.2456 mL
	10 mM	0.4623 mL	2.3114 mL	4.6228 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 6.25 mg/mL (28.89 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 6.25 mg/mL (28.89 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 6.25 mg/mL (28.89 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Curzerene is a sesquiterpene is isolated from the rhizome of Curculigo orchioides Gaertn with anti-cancer activity. Curzerene inhibits glutathione S-transferase A1 (GSTA1) mRNA and protein expression. Curzerene induces cell apoptosis[1].

IC_{50} & Target

GSTA1[1]

In Vitro

Curzerene (0-100 μM; 24-72 hours) indicates that cell inhibition increases in a dose- and time-dependent manner, IC_{50} to SPC A1 cells at 24, 48, and 72 h was 403.8 μM, 154.8 μM, and 47.01 μM, respectively[1].
Curzerene (0-100 μM; 48 hours) exhibits a higher percentage of apoptotic and necrotic cells than that of the control group in SPC-A1cells[1].

Curzerene(0-100 μM; 48 hours) indicates that the percentage of cells arrested in the G2/M phase increased from 9.26% in the control group cells to 17.57% in the cells treated with the highest dose[1].
Curzerene (6.25-100 μM; 48 hours) decreases the mRNA expression of GSTA1 in SPC A1 cells[1].
Curzerene (6.25-100 μM; 48 hours) decreases the protein expression of GSTA1 in SPC A1 cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	SPC-A1 cells
Concentration:	0 μM, 6.25 μM, 12.5 μM, 25 μM, 50 μM, 100 μM
Incubation Time:	24 hours, 48 hours, 72 hours
Result:	Inhibited growth of non-small cell lung cancer SPC A1 cells in vitro.

Apoptosis Analysis[1]

Cell Line:	SPC-A1 cells
Concentration:	0 μM, 6.25 μM, 12.5 μM, 25 μM, 50 μM, 100 μM
Incubation Time:	48 hours
Result:	Induced apoptosis of the cells in a dose-dependent manner.

Apoptosis Analysis[1]

Cell Line:	SPC-A1 cells
Concentration:	0 μM, 6.25 μM, 12.5 μM, 25 μM, 50 μM, 100 μM
Incubation Time:	48 hours
Result:	Induced G2/M cell cycle arrest of SPC A1 cells.

RT-PCR[1]

Cell Line:	SPC-A1 cells
Concentration:	6.25 μM, 25 μM, 100 μM
Incubation Time:	48 hours
Result:	Decreased GSTA1 mRNA expression.

REFERENCES

[1]. Wang Y, et al. Cytotoxic and Antitumor Effects of Curzerene from Curcuma longa. Planta Med. 2017 Jan;83(1-02):23-29.

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