Yakuchinone A

Cat. No.: HY-123386

CAS No.: 78954-23-1

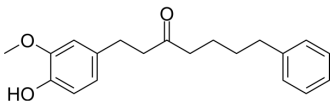
Molecular Formula: $C_{20}H_{24}O_3$

Molecular Weight: 312.4

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 : 100 mg/mL (320.10 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.2010 mL	16.0051 mL	32.0102 mL
	5 mM	0.6402 mL	3.2010 mL	6.4020 mL
	10 mM	0.3201 mL	1.6005 mL	3.2010 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: ≥ 2.5 mg/mL (8.00 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.00 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.00 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Yakuchinone A is a natural product isolated from the fruit of Alpinia oxyphylla, which can induce apoptosis and has anticancer and anti-inflammatory activities[1].

In Vitro

Yakuchinone A acts on A375P, B16F1, B16F10, A549, MCF-7 and HT-29 cell lines with the IC_{50} values of 14.75, 31.73, 21.71, 26.07, 11.50 and 11.96 μM, respectively[1].

Yakuchinone A (0-64 μM, 16 h) can reduce IL-17 production in a dose-dependent manner and the IC_{50} value is 11.5 μM in EL4 (a mouse lymphoma cell line) cells[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Yakuchinone A (50 mg/kg, i.p., daily, 14 days) can reduce the symptoms of EAE in mice in autoimmune encephalomyelitis (EAE) mouse model[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female C57BL/6 mice[1]
Dosage:	50 mg/kg
Administration:	i.p., daily, 14 days
Result:	Showed a significant EAE score reduction from Day 9 to Day 15 after EAE onset.

REFERENCES

[1]. Chen Huo, et al. Microbial Transformation of Yakuchinone A and Cytotoxicity Evaluation of Its Metabolites. Int J Mol Sci. 2022 Apr 3;23(7):3992.

[2]. Kuo-Kuei Huang, et al. Alpinia oxyphylla Fruit Extract Ameliorates Experimental Autoimmune Encephalomyelitis through the Regulation of Th1/Th17 Cells. Evid Based Complement Alternat Med. 2019 Mar 14;2019:6797030.

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

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