Chelidonine

Cat. No.: HY-N2369

CAS No.: 476-32-4

Molecular Formula: $C_{20}H_{19}NO_5$

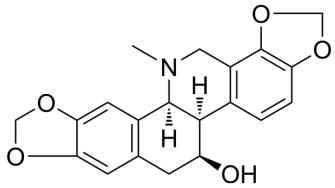
Molecular Weight: 353.37

Target: Apoptosis; Influenza Virus

Pathway: Apoptosis; Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (282.99 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8299 mL	14.1495 mL	28.2990 mL
	5 mM	0.5660 mL	2.8299 mL	5.6598 mL
	10 mM	0.2830 mL	1.4149 mL	2.8299 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 (7.07 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.07 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.07 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Chelidonine, an isoquinoline alkaloid, can be isolated from Chelidonium majus L.. Chelidonine causes $G_{2/M}$ arrest and induces caspase-dependent and caspase-independent apoptosis, and prevents cell cycle progression of stem cells in Dugesia japonica. Chelidonine has cytotoxic activity against melanoma cell lines. with anticancer and antiviral activity[1][2][3].

In Vitro

Chelidonine (5, 10 and 20 μM; 3-4 days) causes lesions and ventral curling in Dugesia japonica; and significantly decreases Djmcm2 expression at 20 μM but no reduction is observed at 5 and 10 μM; as well as prevents cell cycle progression of stem

cells[2].
Chelidonine (0-3 μg/mL; 48 h) has cytotoxic activity against melanoma cell lines[3].
Chelidonine (1, 2 and 3 μg/mL; 24 h) decreases mitochondrial membrane potential (MMP) in 50% of A-375 cells at 1 and 1.5 μg/mL, and 62% at 3 μg/mL[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cytotoxicity Assay[3]

Cell Line:	A-375, A-375-p53DD and A-375-p53sh
Concentration:	0-3 μg/mL
Incubation Time:	48 h
Result:	Exhibited cytotoxic activity against melanoma cell lines with 0.910±0.017 μg/ml, 0.634±0.009 μg/ml and 0.772±0.045 μg/ml in A-375, A-375-p53DD and A-375-p53sh, respectively.

REFERENCES

[1]. Isolani ME, et al. The in vivo effect of chelidonine on the stem cell system of planarians. Eur J Pharmacol. 2012 Jul 5;686(1-3):1-7.

[2]. Hammerová J, et al. Benzo[c]phenanthridine alkaloids exhibit strong anti-proliferative activity in malignant melanoma cells regardless of their p53 status. J Dermatol Sci. 2011 Apr;62(1):22-35.

[3]. Lee YK, et al. Chelidonine Induces Caspase-Dependent and Caspase-Independent Cell Death through G2/M Arrest in the T98G Human Glioblastoma Cell Line. Evid Based Complement Alternat Med. 2019 May 26;2019:6318179.

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