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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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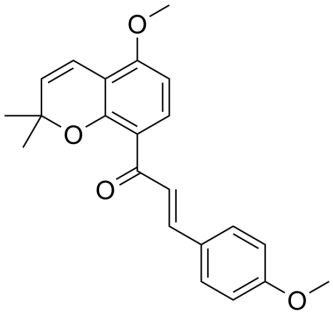
Millepachine

Cat. No.:	HY-N7591
CAS No.:	1393922-01-4
Molecular Formula:	$C_{22}H_{22}O_4$
Molecular Weight:	350.41
Target:	Apoptosis
Pathway:	Apoptosis
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (285.38 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8538 mL	14.2690 mL	28.5380 mL
	5 mM	0.5708 mL	2.8538 mL	5.7076 mL
	10 mM	0.2854 mL	1.4269 mL	2.8538 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 (7.13 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.13 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Millepachine is a bioactive natural chalcone from Chinese herbal medicine Millettia pachycarpa Benth, exhibits strong antitumor effects against numerous human cancer cells both in vitro and in vivo[1].

In Vitro

Millepachine (1.25-20 μM; 48 h) remarkably inhibits the proliferation of cisplatin-resistant A2780CP cells[1].
Millepachine (2-8 μM; 24 or 48 h) induces G2/M arrest and apoptosis cisplatin-sensitive A2780S and cisplatin-resistant A2780CP cells[1].
Millepachine (2-8 μM; 24 h) decreases topoisomerase II levels in A2780S and A2780CP cells[1].
Millepachine (2-8 μM; 24 h) inhibits ATP-binding cassette transporter activity in A2780CP cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	A2780CP cells
Concentration:	0, 1.25, 2.5, 5, 10, 20 μM
Incubation Time:	48 hours
Result:	Inhibited the cells proliferation with an IC_{50} of 4 μM.

Cell Cycle Analysis[1]

Cell Line:	A2780S and A2780CP cells
Concentration:	2, 4, 8 μM
Incubation Time:	24 or 48 hours
Result:	Induced significant G2/M arrest both in both cells. The percentage of cells in the G2/M fraction increased from 15.99% in vehicle cells to 24.93%, 60.67%, and 77.31% at dose of 2, 4, and 8 μM in A2780S cells, respectively.

Apoptosis Analysis[1]

Cell Line:	A2780S and A2780CP cells
Concentration:	2, 4, 8 μM
Incubation Time:	24 or 48 hours
Result:	The percentage of apoptotic cells increased from 1.49% in vehicle cells to 10.98%, 20.60%, and 39.43% at dose of 2, 4, and 8 μM in A2780S cells, respectively. The percentage of apoptotic cells increased from 0.87% to 10.97%, 25.28%, and 37.59% in A2780CP cells, respectively.

Western Blot Analysis[1]

Cell Line:	A2780S and A2780CP cells
Concentration:	0, 2, 4, 8 μM
Incubation Time:	24 hours
Result:	Decreased the levels of topoisomerase II (TOPO II) in both cells.

In Vivo

Millepachine (20 mg/kg; i.v. every two days for 14 day) inhibits tumor growth in mice[1].
Millepachine (20 mg/kg; i.v. every two days for 14 day) does not induce acquired drug resistance in an excised A2780S xenograft model[1].

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

Animal Model:	Female BALB/c nude mice (6 weeks) are injected A2780S or A2780CP cells[1]
Dosage:	20 mg/kg
Administration:	I.v. every two days for 2-14 days
Result:	Reduced tumor volume and tumor weight with the inhibitory rate of 73.21% and 65.58% in A2780S (after seven times injection) and A2780CP (after six times injection) xenograft model, respectively.

	With low toxicity in vivo.

REFERENCES

[1]. Wu W, et, al. Millepachine showed novel antitumor effects in cisplatin-resistant human ovarian cancer through inhibiting drug efflux function of ATP-binding cassette transporters. Phytother Res. 2018 Dec; 32(12):2428-2435.

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