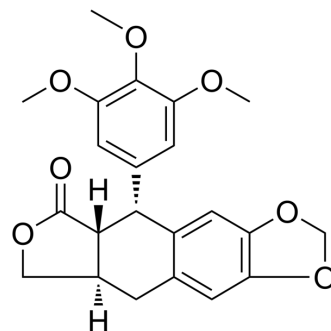


Deoxypodophyllotoxin

Cat. No.:	HY-N2500		
CAS No.:	19186-35-7		
Molecular Formula:	C ₂₂ H ₂₂ O ₇		
Molecular Weight:	398.41		
Target:	Microtubule/Tubulin; Apoptosis; Autophagy		
Pathway:	Cell Cycle/DNA Damage; Cytoskeleton; Apoptosis; Autophagy		
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 (251.00 mM; Need ultrasonic)					
		Solvent Concentration	Mass	1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM		2.5100 mL	12.5499 mL	25.0998 mL
		5 mM		0.5020 mL	2.5100 mL	5.0200 mL
10 mM			0.2510 mL	1.2550 mL	2.5100 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (6.27 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (6.27 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (6.27 mM); Clear solution 					

BIOLOGICAL ACTIVITY

Description	Deoxypodophyllotoxin (DPT), a derivative of podophyllotoxin, is a lignan with potent antimitotic, anti-inflammatory and antiviral properties isolated from <i>Anthriscus sylvestris</i> . Deoxypodophyllotoxin, targets the microtubule, has a major impact in oncology not only as anti-mitotics but also as potent inhibitors of angiogenesis ^[1] . Deoxypodophyllotoxin induces cell autophagy and apoptosis ^[2] . Deoxypodophyllotoxin evokes increase of intracellular Ca ²⁺ concentrations in DRG neurons ^[3] .
In Vitro	Deoxypodophyllotoxin (25-75 nM; 6-48 hours) increases the percentage of early apoptotic cell population from 2.05 to 5.62 and 18.49% for 24 h and 48 h, respectively ^[1] .

Deoxypodophyllotoxin (25-75 nM; 6-48 hours) treats SGC-7901 cells arrested in G2/M phase in time- and dose- dependent manners^[1].

Deoxypodophyllotoxin (25-75 nM; 6-48 hours) results in a remarkably time- and dose-dependent decrease in Cdc2 and Cdc25C expression levels and increases cyclin B1 within 6h, decreases PARP, Bcl-2 and caspase-3 activity^[1].

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

Apoptosis Analysis^[1]

Cell Line:	SGC-7901 cells
Concentration:	25, 50, 75 nM
Incubation Time:	6, 12, 24, 48 hours
Result:	Induced apoptosis in SGC-7901 Cells.

Cell Cycle Analysis^[1]

Cell Line:	SGC-7901 cells
Concentration:	25, 50, 75 nM
Incubation Time:	6, 12, 24, 48 hours
Result:	Induced G2/M cell cycle arrest in SGC-7901 Cells

Western Blot Analysis^[1]

Cell Line:	SGC-7901 cells
Concentration:	25, 50, 75 nM
Incubation Time:	6, 12, 24, 48 hours
Result:	Altered the expression of cyclin B1, Cdc2,Cdc25C, p-PARP, Bcl-2 and p-caspase-3 proteins.

In Vivo

Deoxypodophyllotoxin (intravenously injected; 5, 10, and 20 mg/kg; 3 times a week; 28 days) suppresses the tumors in a dose-dependent manner, the growth of tumors is inhibited by 22.19%, 47.91% and 50.93% with DPT at 5, 10 and 20 mg/kg, respectively^[1].

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

Animal Model:	Xenograft model of gastric cancer in nude mice with SGC-7901 cells ^[1]
Dosage:	5, 10, and 20 mg/kg
Administration:	Intravenously injected; 5, 10, and 20 mg/kg; 3 times a week; 28 days
Result:	Inhibited the growth of gastric cancer tumors.

REFERENCES

[1]. Wang YR, et al. Deoxypodophyllotoxin induces G2/M cell cycle arrest and apoptosis in SGC-7901 cells and inhibits tumor growth in vivo. *Molecules*. 2015 Jan 20;20(1):1661-75.

[2]. Kim SH, et al. Deoxypodophyllotoxin induces cytoprotective autophagy against apoptosis via inhibition of PI3K/AKT/mTOR pathway in osteosarcoma U2OS cells. *Pharmacol Rep*. 2017 Oct;69(5):878-884.

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

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