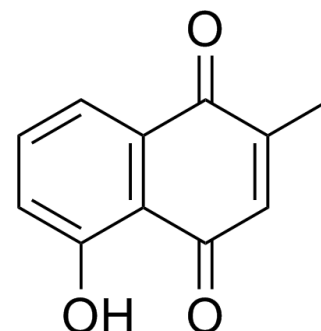


Plumbagin

Cat. No.:	HY-N1497		
CAS No.:	481-42-5		
Molecular Formula:	C ₁₁ H ₈ O ₃		
Molecular Weight:	188.18		
Target:	Others		
Pathway:	Others		
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 : ≥ 150 mg/mL (797.11 mM)

H₂O : < 0.1 mg/mL (insoluble)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	5.3141 mL	26.5703 mL	53.1406 mL
	5 mM	1.0628 mL	5.3141 mL	10.6281 mL
	10 mM	0.5314 mL	2.6570 mL	5.3141 mL

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

In Vivo

1. Add each solvent one by one: **10% DMSO >> 90% corn oil**

Solubility: ≥ 2.5 mg/mL (13.29 mM); Clear solution

2. Add each solvent one by one: **10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline**

Solubility: ≥ 2.5 mg/mL (13.29 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Plumbagin (2-Methyljuglone) is a naphthoquinone isolated from *Plumbago zeylanica* L, exhibits anticancer and antiproliferative activities^[1].

In Vitro

Plumbagin (0, 5, 10, and 15 μM) induces apoptosis of prostate cancer cell lines, such as DU145, CWR22rv1 and LNCaP, in a dose-dependent manner^[1].

Plumbagin (5, 20 μM) obviously inhibits the invasion of PC3, DU145, and CWR22rv1 cells^[1].

Apoptosis Analysis ^[1]	
Cell Line:	DU145, CWR22rv1, LNCaP and RWPE-1 cells
Concentration:	0, 5, 10, and 15 μ M
Incubation Time:	24 hours
Result:	Dose-dependently induced apoptosis of DU145, CWR22rv1 and LNCaP, but showed no effect on RWPE-1 cells at up to 20 μ M.
In Vivo	
Plumbagin (2 mg/kg, i.p., five days a week for 11 weeks) inhibits the growth of tumor in male athymic nude mice ^[1] . Plumbagin (2 mg/kg, i.p., five days a week for 11 weeks) inhibits expression of PKC ϵ , suppresses JAK-2 and Stat3 phosphorylation, and activates Stat3, PCNA, VEGF and MMP-9 in mice ^[1] .	
Animal Model:	Male athymic nude mice bearing DU145 cells ^[1]
Dosage:	2 mg/kg
Administration:	I.P. after 3 days post cell implantation, five days a week.
Result:	Delayed tumor growth by 3 weeks, and reduced tumor weight and volume in mice.

REFERENCES

[1]. Aziz MH, et al. Plumbagin, a medicinal plant-derived naphthoquinone, is a novel inhibitor of the growth and invasion of hormone-refractory prostate cancer. *Cancer Res.* 2008 Nov 1;68(21):9024-32.

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

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