Psoralen

Cat. No.: HY-N0053

CAS No.: 66-97-7

Molecular Formula: $C_{11}H_6O_3$

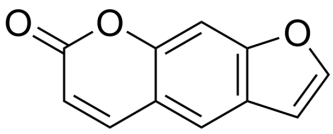
Molecular Weight: 186.16

Target: Apoptosis; HIV; 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 (537.17 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	5.3717 mL	26.8586 mL	53.7172 mL
5 mM	1.0743 mL	5.3717 mL	10.7434 mL
10 mM	0.5372 mL	2.6859 mL	5.3717 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 (13.43 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (13.43 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (13.43 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Psoralen (Ficusin) is a coumarin isolated from the seeds of Fructus Psoraleae. Psoralen exhibits a wide range of biological properties, including anti-cancer, antioxidant, antidepressant, anticancer, antibacterial, and antiviral, et al[1].

In Vitro

Psoralen (10-500 μM; 24-48 hours) inhibits cell viability in a concentration- and time-dependent manner in L02 and?HepG2 cells. In L02 cells, Psoralen at 400 μM does not significantly change extracellular LDH levels, and 400 μM or 450 μM psoralen inhibits 50–60% of cell viability[1].

Psoralen (150-450 μM; 24 hours) induces significant S-phase arrest in L02 cells in time- and dose-dependent manners, but it does not exhibits significant change in the cycle distribution of HepG2 cells[1].

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

Cell Proliferation Assay[1]

Cell Line:	L02 and HepG2 cells
Concentration:	10 μM, 50 μM,100 μM, 200 μM, 300 μM,400 μM,450 μM,500 μM
Incubation Time:	24 or 48 hours
Result:	Inhibited the viability of L02 and HepG2 cells mainly by suppressing cell proliferation rather than causing cell death.

Cell Cycle Analysis[1]

Cell Line:	L02 and HepG2 cells
Concentration:	150 μM; 300 μM; 450 μM
Incubation Time:	24 or 48 hours
Result:	Induced cell S-phase arrest instead of causing cell apoptosis or death.

In Vivo

Psoralen (oral gavage; 17.5 mg/kg; 6 weeks) reduces the number of metastatic lesions and the rate of bone metastasis by 20% compared to vehicle-treated mice. It also reduces tumor infiltration and decreases the percentage of tumor cells in metastatic lesions by ~40% compared to vehicle in mice[2].

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

Animal Model:	Female nude (BALB/c nu/nu) mice[2]
Dosage:	17.5 mg/kg
Administration:	Oral gavage; 17.5 mg/kg; 6 weeks
Result:	Inhibited metastasis of breast cancer to bone in vivo.

CUSTOMER VALIDATION

- Anal Chem. 2022 Oct 4;94(39):13623-13630.
- J Ethnopharmacol. 2022 Aug 13;115593.
- Evid Based Complement Alternat Med. 27 Aug 2022.

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REFERENCES

[1]. Wu C, et al. Psoralen inhibits bone metastasis of breast cancer in mice. Fitoterapia. 2013 Dec;91:205-10.

[2]. Li Yin, et al. A novel psoralen derivative-MPFC enhances melanogenesis via activation of p38 MAPK and PKA signaling pathways in B16 cells. Int J Mol Med. 2018 Jun;41(6):3727-3735.

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

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