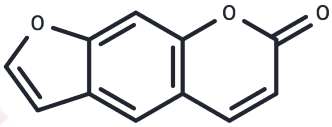
Data Sheet (Cat.No.T2942)

TargetMol

Psoralen

Chemical Properties



CAS No. : 66-97-7

Formula: C11H6O3

Molecular Weight: 186.16

Storage: Keep away from direct sunlight,Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Psoralen (Ficusin) is a furocoumarin that intercalates with DNA, inhibiting DNA synthesis and cell division.
Targets(IC50)	Apoptosis,HIV Protease,DNA/RNA Synthesis,Influenza Virus
In vitro	Psoralen inhibits the proliferation of MCF-7/ADR cells as shown by G0/G1 phase arrest rather than encouraging apoptosis. Psoralen reverses MDR(multidrug resistance) through inhibiting ATPase activity rather than reducing P-gp expression. Psoralen inhibits the migration abilities of MCF-7/ADR cells by repressing EMT possibly through inhibiting the activation of NF-κB. Psoralens are photoactive compounds that readily alkylate DNA when activated by longwave ultraviolet light. Proliferation has been significantly promoted in MCF-7/ADR cells treated with low concentration of psoralen (10.75 μM) and inhibited with high concentration(>21.5 μM). Psoralen can inhibit metastasis of breast cancer. Psoralen mediates a variety of cell processes including cell death, proliferation, inflammation and migration[1].
In vivo	Psoralen has been characterized as a tumor suppressor in various tumors[1]. Psoralen ameliorates sex hormone deficiency-induced osteoporosis in female and male mice. It has antiosteoporosis effect in ovariectomy-induced osteoporotic rats via stimulating osteoblastic differentiation from bone mesenchymal stem cells[2].
Cell Research	The effects of psoralen on cell proliferation are measured by MTT assay. MCF-10A and MCF-7/ADR cells are cultured in 96-well plates at a cell density of 2×104 cells per well for 48 h. The medium is then removed and replaced by fresh medium containing different concentrations of psoralen (0, 21.5, 43.0, 64.5, 86.0, 107.5 μM) for 48 h. Cells in the negative control group are incubated with RPMI-1640 culture medium supplemented with 0.1% dimethyl sulfoxide (DMSO). Cells are incubated with 10 μL MTT (5 mg/mL) for 4 h, and then discarded the medium and added 200 μL DMSO. The spectrophotometric absorbance is measured at 490 nm with enzyme-labeling instrument after the crystals were fully dissolved. (Only for Reference)

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 71.22 mg/mL (382.57 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (21.49 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
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
50 mM	0.1074 mL	0.5372 mL	1.0743 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Wang X, et al. Biol Pharm Bull. 2016, 39(5):815-22.
Ma X, Li H, Gong Y, et al. Psoralen inhibits hepatitis B viral replication by down-regulating the host transcriptional machinery of viral promoters. Virologica Sinica. 2022
Shi W, Gao Y, Yang H, et al.Bavachinin, a main compound of Psoraleae Fructus, facilitates GSDMD-mediated pyroptosis and causes hepatotoxicity in mice.Chemico-Biological Interactions.2024: 111133.
Xiaomei Yuan, et al. BioMed Research International. 2016, 2016:6869452.

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