Psoralidin

Cat. No.: HY-N0232

CAS No.: 18642-23-4

Molecular Formula: $C_{20}H_{16}O_5$

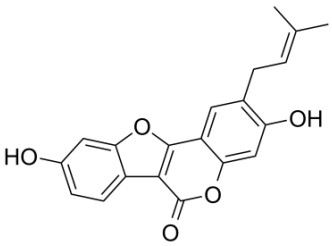
Molecular Weight: 336.34

Target: COX; Lipoxygenase; Notch; Reactive Oxygen Species; Bacterial

Pathway: Immunology/Inflammation; Metabolic Enzyme/Protease; Neuronal Signaling; Stem Cell/Wnt; NF-κB; Anti-infection

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 (297.32 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.9732 mL	14.8659 mL	29.7318 mL
	5 mM	0.5946 mL	2.9732 mL	5.9464 mL
	10 mM	0.2973 mL	1.4866 mL	2.9732 mL

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

BIOLOGICAL ACTIVITY

Description

Psoralidin, isolated from the seed of Psoralea corylifolia, is a dual inhibitor of COX-2 and 5-LOX, regulates ionizing radiation (IR)-induced pulmonary inflammation.Anti-cancer, anti-bacterial, and anti-inflammatory properties[1]. Psoralidin significantly downregulates NOTCH1 signaling. Psoralidin also greatly induces ROS generation[2].

IC_{50} & Target

COX-2 | 5-LOX

In Vitro

Three breast cancer cell (BCC)populations ($ALDH^-$ cells, $ALDH^+$ cells, and commercial BSCSs) are sensitive to Psoralidin treatment (10, 15, 20, and 25 μM; 24 hours) with IC_{50}s ranging from 18 to 21 μM; however, the MCF-12A cells were resistant to Psoralidin[2].

Psoralidin (30 μM; 24 hours) results in a significant induction of apoptosis for $ALDH^-$ cells, $ALDH^+$ cells, and commercial BCSCs[2].

Psoralidin treatment also downregulates NOTCH1 expression in both $ALDH^-$ and $ALDH^+$ cells[2].

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

Cell Viability Assay[2]

Cell Line:	$ALDH^-$ cells, $ALDH^+$ cells, commercial breast cancer stem cells (BSCSs), and normal breast epithelial cells (MCF-12A)
Concentration:	10, 15, 50, and 25 μM
Incubation Time:	24 hours
Result:	IC_{50}s of 18 to 21 μM for $ALDH^-$ cells, $ALDH^+$ cells, commercial BCSCs.

Apoptosis Analysis[2]

Cell Line:	$ALDH^-$ cells, $ALDH^+$ cells, and commercial BCSCs
Concentration:	20 and 30 μM
Incubation Time:	24 hours
Result:	No significant induction of apoptosis was observed for any of the three cell types following treatment at 20 μM. However, 53.60%, 44.1%, and 45.9% of cells were apoptotic at 30 μMin $ALDH^-$ cells, $ALDH^+$ cells, and commercial BCSCs, respectively.

In Vivo

Psoralidin (5 mg/kg) regulates expression of pro-inflammatory cytokines that play an important role in inflammatory diseasesin IR-irradiated lung of BALB/c mouse[1].

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

Animal Model:	BALB/c mice[1]
Dosage:	5 mg/kg
Administration:	Intraperitoneal application; 30 min before and 1 h after IR irradiation (20 Gy).
Result:	Anti-inflammatory effect in IR-irradiated mice.

REFERENCES

[1]. Yang HJ, et al. Psoralidin, a dual inhibitor of COX-2 and 5-LOX, regulates ionizing radiation (IR)-induced pulmonary inflammation.Biochem Pharmacol. 2011 Sep 1;82(5):524-34.

[2]. Suman S, et al. Silencing NOTCH signaling causes growth arrest in both breast cancer stem cells and breast cancer cells.Br J Cancer. 2013 Nov 12;109(10):2587-96.

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