Aloesin

Cat. No.: HY-N2460

CAS No.: 30861-27-9

Molecular Formula: $C_{19}H_{22}O_9$

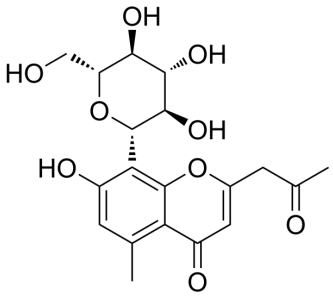
Molecular Weight: 394

Target: Tyrosinase; Apoptosis

Pathway: Metabolic Enzyme/Protease; Apoptosis

Storage: 4°C, protect from light

* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 270 mg/mL (685.28 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.5381 mL	12.6904 mL	25.3807 mL
	5 mM	0.5076 mL	2.5381 mL	5.0761 mL
	10 mM	0.2538 mL	1.2690 mL	2.5381 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: ≥ 2.25 mg/mL (5.71 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.25 mg/mL (5.71 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.25 mg/mL (5.71 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Aloesin (Aloeresin) is a tyrosinase inhibitor, and shows anti-inflammatory activity, ultraviolet protection, and antibacterium effects. Aloesin can induce apoptosis and be used in ovarian cancer research[1][2][3].

In Vitro

Aloesin (0-40 μM, 24, 48, and 72 h) inhibits ovarian cancer cell growth in a dose- and time-dependent manner[1].
Aloesin (0-10 μM; 48 h) arrest the cell cycle at S-phase in a dose-dependent manner in SKOV3 cells[1].
Aloesin (0-10 μM; 48 h) promotes cell apoptosis in SKOV3 cells[1].
Aloesin (0-10 μM; 48 h) inhibits the phosphorylation of the MAPK signaling pathway[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	MCF10A, T47D, MCF7, MDA-MB-468, and MDA-MB-231 cells
Concentration:	0, 2.5, 5, 10, 20, and 40 μM
Incubation Time:	24, 48, and 72 h
Result:	Exhibited a concentration-dependent and time-dependent killing of diverse ovarian cancer cell lines.

Cell Viability Assay[1]

Cell Line:	SKOV3 cells
Concentration:	2.5-10 μM
Incubation Time:	48 hours
Result:	Showed a significantly potent toxic effect with an IC_{50} value of around 5 μM.

Cell Cycle Analysis[1]

Cell Line:	SKOV3 cells
Concentration:	0, 2.5, 5, and 10 μM
Incubation Time:	48 h
Result:	Decresed the percentage of cells in the G2/M phase gradually with increasing doses, increased the percentages of cells in the S-phase. Downregulated the levels of the S-G2/M-related proteins cyclin A, CDK2, and cyclin D1.

Apoptosis Analysis[1]

Cell Line:	SKOV3 cells
Concentration:	0, 2.5, 5, and 10 μM
Incubation Time:	48 h
Result:	Detected significant proteolytic cleavage of caspase-3, caspase-9, and PARP1. Increased the expression of Bax and conversely decreased Bcl-2.

Western Blot Analysis[1]

Cell Line:	SKOV3 cells
Concentration:	0, 2.5, 5, and 10 μM
Incubation Time:	48 h
Result:	Decreased phosphorylated levels of MEK, ERK, MAPK, and JNK.

In Vivo

Aloesin (injection; 20 mg/kg or 40 mg/kg; once daily; 7 w) inhibits tumor growth in a Xenograft model of ovarian cancer[1].

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

Animal Model:	6-week-old athymic nude mice injected with SKOV3 cells

Dosage:	20 mg/kg or 40 mg/kg
Administration:	Injection; 20 mg/kg or 40 mg/kg; once daily; 7 weeks
Result:	Reduced volumes and average weights of dissected tumors significantly compared with the control group.

REFERENCES

[1]. Y H Jin, et al. Aloesin and arbutin inhibit tyrosinase activity in a synergistic manner via a different action mechanism. Arch Pharm Res. 1999 Jun;22(3):232-6.

[2]. Zhang LQ, et al. Aloesin Suppresses Cell Growth and Metastasis in Ovarian Cancer SKOV3 Cells through the Inhibition of the MAPK Signaling Pathway. Anal Cell Pathol (Amst). 2017;2017:8158254.

[3]. Wahedi HM, et al. Aloesin from Aloe vera accelerates skin wound healing by modulating MAPK/Rho and Smad signaling pathways in vitro and in vivo. Phytomedicine. 2017 May 15;28:19-26.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA