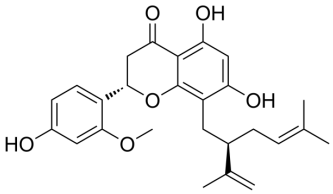
Leachianone A

Cat. No.:	HY-N2281
CAS No.:	97938-31-3
Molecular Formula:	$C_{26}H_{30}O_6$
Molecular Weight:	438.51
Target:	Apoptosis
Pathway:	Apoptosis
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



BIOLOGICAL ACTIVITY

Description

Leachianone A, isolated from Radix Sophorae, has anti-malarial, anti-inflammatory, and cytotoxic potent[1]. Leachianone A induces apoptosis involved both extrinsic and intrinsic pathways[2].

In Vitro

Leachianone A (0-20 μg/ml; 24-72 hours) exhibits a marked inhibition on the survival of HepG2 cells time- and dose-dependently manner, IC_{50} values are 6.9 μg/ml, 3.4 μg/ml and 2.8 μg/ml in cells with 24-, 48- and 72-hours treatment, respectively[1].

Leachianone A (10-30 μg/ml; 48 hours) indicates that at low concentration of LA (10 μg/ml), a substantial amount of cells is primarily in the early phase of apoptosis, at higher concentrations, induces a shift of the cell population to late apoptotic/ necrotic stage[1].

Leachianone A (10-30 μg/ml; 48 hours) decreases the precursor of caspase-3 in a dose-dependent manner, reduces the protein level of the pro-forms of upstream initiator caspases, caspases-8 and -9, decreases two downstream substrates, namely inhibitor of caspase-activated DNase(ICAD) and poly-ADP-ribose polymerase (PARP) in HepG2 cells[1].

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

Cell Viability Assay[1]

Cell Line:	HepG2 cells
Concentration:	0 μg/ml, 2 μg/ml, 4 μg/ml, 6 μg/ml, 8 μg/ml, 10 μg/ml, 12 μg/ml, 14 μg/ml, 16 μg/ml, 18 μg/ml, 20 μg/ml
Incubation Time:	24-72 hours
Result:	Inhibited HepG2 cells survival.

Apoptosis Analysis[1]

Cell Line:	HepG2 cells
Concentration:	48 hours
Incubation Time:	10, 20, and 30 μg/ml
Result:	Induced the proportion of annexin V-stained cells in both the early and late apoptotic stage.

Western Blot Analysis[1]

Cell Line:	HepG2 cells
Concentration:	48 hours
Incubation Time:	10, 20, and 30 μg/ml
Result:	Decreased the protein expression of caspase-3, caspases-8 and -9, reduced ICAD and PARP protein expression.

In Vivo

Leachianone A (intravenously injection; 20 mg/kg, 30 mg/kg; once daily; 30 days) significantly diminishes the tumor volume by 17-54% in LA-treated nude mice, when compared with those solely given the vehicle[1].

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

Animal Model:	Male nude mice with human hepatoma HepG2 cells[1]
Dosage:	20 mg/kg; 30 mg/kg
Administration:	Intravenously injection; 20 mg/kg, 30 mg/kg; once daily; 30 days
Result:	Suppressed the tumor growth in vivo.

REFERENCES

[1]. Jeong GS, et al. Lavandulyl flavanones from Sophora flavescens protect mouse hippocampal cells against glutamate-induced neurotoxicity via the induction of heme oxygenase-1. Biol Pharm Bull. 2008 Oct;31(10):1964-7.

[2]. Cheung CS, et al. Leachianone A as a potential anti-cancer drug by induction of apoptosis in human hepatoma HepG2 cells. Cancer Lett. 2007 Aug 18;253(2):224-35. Epub 2007 Mar 26.

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