Lupiwighteone

Cat. No.: HY-N3354

CAS No.: 104691-86-3

Molecular Formula: $C_{20}H_{18}O_5$

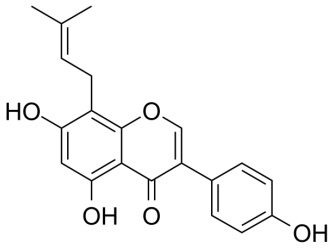
Molecular Weight: 338.35

Target: Apoptosis

Pathway: 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 : 100 mg/mL (295.55 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.9555 mL	14.7776 mL	29.5552 mL
	5 mM	0.5911 mL	2.9555 mL	5.9110 mL
	10 mM	0.2956 mL	1.4778 mL	2.9555 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.39 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Lupiwighteone is an isoflavone present widely in wild-growing plants, with antioxidant, antimicrobial and anticancer effects. Lupiwighteone induces caspase-dependent and -independent apoptosis on human breast cancer cells via inhibiting PI3K/Akt/mTOR pathway[1][2].

IC_{50} & Target

apoptosis[2]

In Vitro

Lupiwighteone (2-100 μM; 72 hours) shows cytotoxicity towards various cell lines, especially on DU-145 cells and SGC-7901 cells with IC_{50}s of 23.7 μM and 21 μM, respectively[2].
Lupiwighteone (20-60 μM; 48 hours) induces (cell cycle arrest in DU-145 cells[2].
Lupiwighteone (20-60 μM; 48 hours) induces cells apoptosis[2].
Lupiwighteone (20-60 μM; 48 hours) decreases the cell cycle-related protein expressions in a dose-dependent manner in DU-145 cells[2].
Lupiwighteone (20-60 μM; 48 hours) induces a dose-dependent increase in ROS production[2].
Lupiwighteone up-regulates of cytochrome c and caspase-3, and subsequent cleavage of PARP-1 and down-regulates of the

p-Akt/Akt ratio and VEGF expression, suggests the activation of mitochondria-based intrinsic apoptosis in DU-145 cells[2].

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

Cell Viability Assay[2]

Cell Line:	DU-145 cells, C4-2 cells, SGC-7901 cells, Hela cells, HUVEC, MCF-7 cells, CNE cells, Vero
Concentration:	2 μM, 5 μM, 25 μM, 50 μM, 100 μM
Incubation Time:	72 hours
Result:	Had inhibition on the survival of many cancer cell lines and HUVEC.

Cell Cycle Analysis[2]

Cell Line:	DU-145 cells
Concentration:	20 μM, 40 μM, 60 μM
Incubation Time:	48 hours
Result:	Induced cell cycle arrest.

Apoptosis Analysis[2]

Cell Line:	DU-145 cells
Concentration:	20 μM, 40 μM, 60 μM
Incubation Time:	48 hours
Result:	Induced apoptosis.

Western Blot Analysis[2]

Cell Line:	DU-145 cells
Concentration:	20 μM, 40 μM, 60 μM
Incubation Time:	48 hours
Result:	Decreased CDK1, 2, 4, 6, cyclinD1, and cyclinB1 protein expression in a dose-dependent manner.

REFERENCES

[1]. Won YS, et al. Lupiwighteone induces caspase-dependent and -independent apoptosis on human breast cancer cells via inhibiting PI3K/Akt/mTOR pathway. Food Chem Toxicol. 2020 Jan;135:110863.

[2]. Ren J, et al. Isoflavone lupiwighteone induces cytotoxic, apoptotic, and antiangiogenic activities in DU-145 prostate cancer cells. Anticancer Drugs. 2015 Jul;26(6):599-611.

[3]. Li XL, Sui L, Lin FH, Lian Y, Ai LZ, Zhang Y. Differential effects of genistein and 8-prenylgenistein on reproductive tissues in immature female mice. Pharm Biol. 2019;57(1):226-230.

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

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