Arborinine

Cat. No.: HY-128912

CAS No.: 5489-57-6

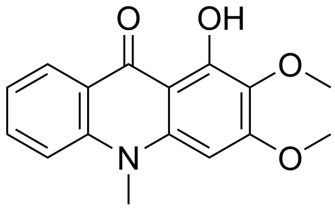
Molecular Formula: $C_{16}H_{15}NO_4$

Molecular Weight: 285.29

Target: Histone Demethylase

Pathway: Epigenetics

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Arborinine is a potent and orally activeLSD1 inhibitor. Arborinine increases the expression of H3K4me1/2, H3K9me1/2, E-cad protein and decreases the expression of UBE2O protein level. Arborinine induces cell cycle arrest at S phase. Arborinine shows antitumor activity [1][2].

IC_{50} & Target

LSD1

In Vitro

Arborinine (0, 5, 15, 30 μM; 48 h) increases the expression of H3K4me1/2, H3K9me1/2, E-cad protein[1].
Arborinine (20 μM) decreases the expression of UBE2O protein level in 786O cells[1].
Arborinine (20 μM) induces cell cycle arrest at the S phase and inhibits cell apoptosis[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	786O, A498, 769P, Caki1, OSRC2 cells
Concentration:	0-100 μM
Incubation Time:	48, 72 h
Result:	Showed antiproliferative activity with IC_{50}s of 30.62, 39.09, 15.67, 31.42, 30.35 μM at 48 h, 20.92, 27.01, 14.94, 30.26, 17.37 μM at 72 h for 786O, A498, 769P, Caki1, OSRC2 cells, respectively.

Western Blot Analysis[1]

Cell Line:	786O cells
Concentration:	0, 5, 15, 30 μM
Incubation Time:	48 h
Result:	Increased the expression of H3K4me1/2 and H3K9me1/2 protein in a dose-dependent manner.

Cell Cycle Analysis[1]

Cell Line:	786O and A498 cells
Concentration:	20 μM
Incubation Time:	
Result:	Induced increased population in S phase and decreased population in G1 phase, significantly inhibited both early and late apoptosis of ccRCC cells

In Vivo

Arborinine (40, 80 mg/kg; p.o.; for 21 days) shows antitumor activity in mouse[2].

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

Animal Model:	BALB/c nude mice (SGC-7901 cells and SGC-7901/ADR cells)[2]
Dosage:	40, 80 mg/kg
Administration:	P.o.; for 21 days
Result:	Inhibited the growth of tumors while unchanged the body weights.

REFERENCES

[1]. Feng C, et al. Arborinine from Glycosmis parva leaf extract inhibits clear-cell renal cell carcinoma by inhibiting KDM1A/UBE2O signaling. Food Nutr Res. 2022 Sep 16;66.

[2]. Chu Y, et al. Arborinine, a potential LSD1 inhibitor, inhibits epithelial-mesenchymal transition of SGC-7901 cells and adriamycin-resistant gastric cancer SGC-7901/ADR cells. Invest New Drugs. 2021 Jun;39(3):627-635.

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