Lappaol F

Cat. No.: HY-N7223

CAS No.: 69394-17-8

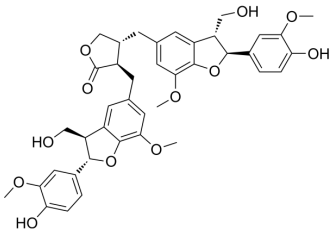
Molecular Formula: $C_{40}H_{42}O_{12}$

Molecular Weight: 714.75

Target: YAP; Apoptosis

Pathway: Stem Cell/Wnt; Apoptosis

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



BIOLOGICAL ACTIVITY

Description

Lappaol F, a lignin, is an anticancer agent. Lappaol F inhibits YAP<⊠b> mRNA and protein level. Lappaol F inhibits tumor cell growth by inducing cell cycle arrest. Lappaol F induces cancer cell apoptosis, and inhibits tumor growth. Lappaol F can be isolated from Arctium lappa Linne (Asteraceae)[1].

In Vitro

Lappaol F (72 h) inhibits the proliferation of HeLa, MDA-MB-231, SW480 and PC3 cells, with IC_{50} values of 41.5, 26.0, 45.3 and 42.9 μM, respectively. And induces cell apoptosis[1].

Lappaol F (50 μM, 12/24/36 h) lowers transcriptional levels of YAP and its target genes (such as BIRC5, GLI2, c-Myc, Bcl-2, Axin2 and AREG) in HeLa, MDA-MB-231, SW480 and PC3 cells[1].

Lappaol F (0-50 μM, 24-72 h) decreases the YAP protein levels, nuclear localisation and transcriptional activity in HeLa cells[1].

Lappaol F (50 μM, 24-72 h) induces G1 and G2 cell-cycle arrest in HeLa, MDA-MB-231, MCF-7 cells[2].

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

Immunofluorescence[1]

Cell Line:	HeLa cells
Concentration:	50 μM
Incubation Time:	48 h
Result:	Decreased the nuclear accumulation of YAP.

Western Blot Analysis[2]

Cell Line:	HeLa⊠MDA-MB-231⊠MCF-7 cells
Concentration:	50 μM
Incubation Time:	24, 48, 72 h
Result:	Increased level of p21 and p27, and reduced level of CDK2, cyclin B1, and CDK1.

RT-PCR[1]

Cell Line:	HeLa, MDA-MB-231, SW480 and PC3 cells

Concentration:	50 μM
Incubation Time:	12/24/36 h
Result:	Lowered transcriptional levels of YAP and its target genes (such as BIRC5, GLI2, c-Myc, Bcl-2, Axin2 and AREG). Upregulated 14-3-3σ mRNA level.

In Vivo

Lappaol F (10 and 20 mg/kg/d, i.v., 15 days) inhibits tumor growth in human colon cancer (SW480) xenografts in nude mice[1].

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

Animal Model:	Human colon cancer (SW480) xenografts in nude mice[1]
Dosage:	10 and 20 mg/kg/d
Administration:	i.v., 15 days
Result:	Inhibited tumor size by 48% (10 mg/kg/d) and 55% (20 mg/kg/d) without affecting the body weight. Induced apoptosis in tumor tissues. Up-regulated the levels of 14-3-3σin tumor tissues and down-regulated the levels of YAP.

REFERENCES

[1]. Li X, et al. Lappaol F, an anticancer agent, inhibits YAP via transcriptional and post-translational regulation. Pharm Biol. 2021 Dec;59(1):619-628.

[2]. Sun Q, et al. Lappaol F, a novel anticancer agent isolated from plant arctium Lappa L. Mol Cancer Ther. 2014 Jan;13(1):49-59.

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