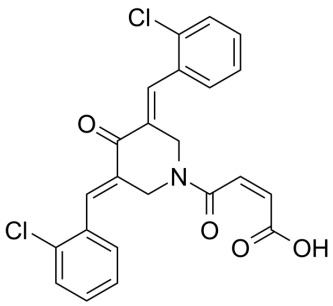
CLEFMA

Cat. No.:	HY-136718
CAS No.:	1246964-32-8
Molecular Formula:	$C_{23}H_{17}Cl_2NO_4$
Molecular Weight:	442.29
Target:	Apoptosis
Pathway:	Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

CLEFMA is a curcuminoid with antitumor activity. CLEFMA inhibits tumor growth is associated with NF-κB-regulated anti-inflammatory and anti-metastatic effects[1][2].

In Vitro

CLEFMA (1-100 μM; 24-72 h) has anti-proliferative activity[1].
CLEFMA inhibits the viability of H441 and A549 cells, with IC_{50}s of 6.4 and 8.9 μM, respectively[2].
CLEFMA (5-10 μM; 24 h) induces apoptosis in H441 and A549 cells[2].
CLEFMA (1 and 10 μM; 24 h) induces autophagic death in H441 cells[1].
CLEFMA (1-20 μM) reduces the DNA-binding activity of NF-κB in H441 cells in a dose-dependent manner[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	PANC-1, MiaPaCa-2, PC-3 and H441 cells
Concentration:	1, 10, 25, 100 μM
Incubation Time:	24, 48, 72 h
Result:	Inhibits cells proliferation in a dose-dependent manner.

In Vivo

CLEFMA (0.2-0.4 mg/kg; i.p. daily for 4 weeks) inhibits tumor growth and suppresses the uptake of FDG in tumor tissue in a xenograft mouse model[2].
CLEFMA (0.2-0.4 mg/kg; i.p. daily for 4 weeks) down-regulates the expression of anti-apoptotic markers cIAP1, Bcl-xL, Bcl-2 and survivin, and induces the cleavage of pro-apoptotic protein BID and the expression of pro-apoptotic BAX in tumor tissue [2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male athymic nu/nu mice (4 weeks old) are injected H441 cells[2]
Dosage:	0.2, 0.4 mg/kg
Administration:	I.p. daily for 4 weeks
Result:	Inhibited tumor growth up to 96% tumor at dose of 0.4 mg/kg.

REFERENCES

[1]. Lagisetty P, et, al. CLEFMA-an anti-proliferative curcuminoid from structure-activity relationship studies on 3,5-bis(benzylidene)-4-piperidones. Bioorg Med Chem. 2010 Aug 15; 18(16):6109-20.

[2]. Yadav VR, et, al. Preclinical evaluation of 4-[3,5-bis(2-chlorobenzylidene)-4-oxo-piperidine-1-yl]-4-oxo-2-butenoic acid, in a mouse model of lung cancer xenograft. Br J Pharmacol. 2013 Dec; 170(7): 1436-48.

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