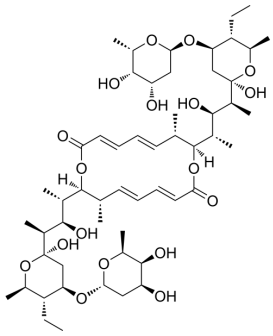
Elaiophylin

Cat. No.:	HY-15184
CAS No.:	37318-06-2
Molecular Formula:	$C_{54}H_{88}O_{18}$
Molecular Weight:	1025.27
Target:	Autophagy; Antibiotic
Pathway:	Autophagy; Anti-infection
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 20 mg/mL (19.51 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	0.9754 mL	4.8768 mL	9.7535 mL
	5 mM	0.1951 mL	0.9754 mL	1.9507 mL
	10 mM	0.0975 mL	0.4877 mL	0.9754 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 2.5 mg/mL (2.44 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (2.44 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Elaiophylin (Azalomycin B; Gopalamicin; Efomycin E) is an autophagy inhibitor, exerts antitumor activity as a single agent in ovarian cancer cells[1].

IC_{50} & Target

Autophagy[1]

In Vitro

Elaiophylin-mediated autophagy inhibition and lysosomal dysfunction affect ovarian cancer cell survival during hypoxia. Exposure to Elaiophylin (0.025-0.5 μM; 24 hours) causes a significant increase in ovarian cancer SKOV3 cell death in hypoxia conditions[1].

In both the SKOV3 and A2780 cell lines, Elaiophylin (0.25, 0.5, 0.75 μM; 24 hours) treatment leads to significant activation of cleaved CASP9/caspase-9 and PARP1 and downregulation of BIRC5/survivin in a concentration-dependent manner[1].

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

Cell Viability Assay[1]

Cell Line:	Ovarian cancer SKOV3 cells.
Concentration:	0.025, 0.05, 0.1, 0.2, 0.5 μM
Incubation Time:	24 hours
Result:	Caused a significant increase in ovarian cancer SKOV3 cells death in hypoxia conditions.

Western Blot Analysis[1]

Cell Line:	Ovarian cancer SKOV3 cells; A2780 cells
Concentration:	0.25, 0.5, 0.75 μM
Incubation Time:	24 hours
Result:	Treatment led to significant activation of cleaved CASP9/caspase-9 and PARP1 and downregulation of BIRC5/survivin in a concentration-dependent manner.

In Vivo

Treatment with 2 mg/kg Elaiophylin (given i.p. every 2 days for 21 days; in BALB/C athymic mice) significantly suppresses ovarian cancer SKOV3 cells growth compared with DMSO treatment, resulting in a 72% decrease in the average daily tumor growth rate compared with DMSO treatment [1].
Lower doses of Elaiophylin as a single agent exert significant antitumor activity, while higher doses lead to intestinal toxicity. Administration of a lower dose (2 mg/kg) of Elaiophylin as a single agent achieves a significant antitumor effect without toxicity in an orthotopic ovarian cancer model with metastasis. Toxic reactions are observed only in the 8 mg/kg group[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	4-wk-old BALB/C athymic mice with ovarian cancer SKOV3 cells[1]
Dosage:	1 or 2 mg/kg
Administration:	Given i.p. every 2 days for 21 days
Result:	Treatment with 2 mg/kg significantly suppressed ovarian cancer SKOV3 cells growth compared with DMSO treatment.

REFERENCES

[1]. Zhao X, et al Elaiophylin, a novel autophagy inhibitor, exerts antitumor activity as a single agent in ovarian cancer cells. Autophagy. 2015;11(10):1849-63.

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