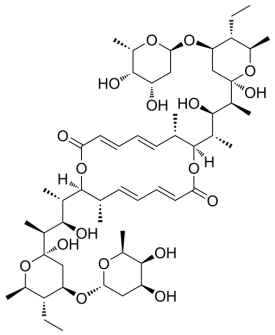
Elaiophylin

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 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].

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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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