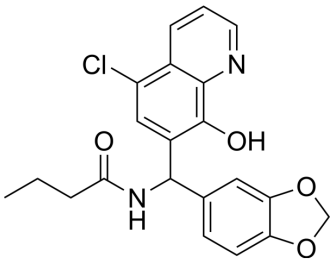
YUM70

Cat. No.:	HY-138364
CAS No.:	423145-35-1
Molecular Formula:	$C_{21}H_{19}ClN_2O_4$
Molecular Weight:	398.84
Target:	HSP; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Metabolic Enzyme/Protease; Apoptosis
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (250.73 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.5073 mL	12.5364 mL	25.0727 mL
	5 mM	0.5015 mL	2.5073 mL	5.0145 mL
	10 mM	0.2507 mL	1.2536 mL	2.5073 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 (6.27 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

YUM70 is a potent and selective inhibitor of glucose-regulated protein 78 (GRP78), with an IC_{50} of 1.5 μM for inhibiting GRP78 ATPase activity of the full-length protein. YUM70 induces endoplasmic reticulum (ER) stress-mediated apoptosis in pancreatic cancer. YUM70 also has in vivo efficacy in a pancreatic cancer xenograft model[1].

IC_{50} & Target

IC50: 1.5 μM (glucose-regulated protein 78)[1]

In Vitro

YUM70 shows selective cytotoxicity for MIA PaCa-2, PANC-1, BxPC-3 cells (IC_{50}=2.8, 4.5, and 9.6 μM, respectively) over normal pancreatic tissue-derived HPNE cells (IC_{50}>30 μM)[1].

?YUM70 (5 μM; 24 h) induces endoplasmic reticulum (ER) stress-mediated apoptosis of MIA PaCa-2cells[1].

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

Western Blot Analysis[1]

Cell Line:	MIA PaCa-2, PANC-1 cells
Concentration:	0.1, 1, 2.5, 5, 10 μM
Incubation Time:	2, 4, 8, 24, 48 hours
Result:	Increased the protein levels of FAM129A, DDIT3, CHAC-1, DDIT4, UPP1, and GRP78 in a dose- and time-dependent manner.

In Vivo

YUM70 (30 mg/kg; i.p. 5 days a week for 7 weeks) inhibits tumor growth in a MIA PaCa-2 xenograft model[1].
?YUM70 (15 mg/kg; i.v.) exhibits $t_{1/2}$ (1.40 h), CL (724.04 mL/h/kg), and V_{ss} (1162.73 mL/kg) in mice[1].
?YUM70 (30 mg/kg; p.o.) exhibits bioavailability (6.71%), $t_{1/2}$ (2.74 h), and CL (9230.15 mL/h/kg) in mice[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	8-week old female NCr nude mice were injected with MIA PaCa-2 cells[1]
Dosage:	30 mg/kg
Administration:	I.p. 5 days a week for 7 weeks
Result:	Observed a significant tumor growth delay with no significant change in body weight during the course of treatment.

CUSTOMER VALIDATION

- EMBO Mol Med. 2023 Oct 9:e17761.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Samanta S, et, al. The hydroxyquinoline analog YUM70 inhibits GRP78 to induce ER stress-mediated apoptosis in pancreatic cancer. Cancer Res. 2021 Feb 2;canres.1540.2020.

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