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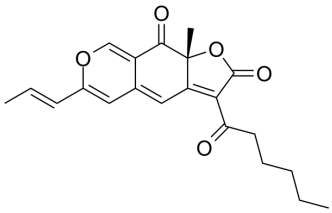
Rubropunctatin

Cat. No.:	HY-N7766
CAS No.:	514-67-0
Molecular Formula:	$C_{21}H_{22}O_5$
Molecular Weight:	354.4
Target:	Apoptosis
Pathway:	Apoptosis
Storage:	-20°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



BIOLOGICAL ACTIVITY

Description

Rubropunctatin, an orange azaphilone pigment, is isolated from the extracts of Monascus pilosus-fermented rice (red-mold rice). Rubropunctatin has anti-inflammatory, immunosuppressive and antioxidative effects, and also exhibits anti-tumor activity[1][2][3].

In Vitro

Rubropunctatin (1.5-30 μM; 24 h) shows selective tumoricidal effect on the human gastric carcinoma BGC-823 cells and no significant toxicity toward normal epithelial cell GES-1[1].

Rubropunctatin (5-30 μM; 6-24 h) induces apoptosis in a dose- and time-dependent manner in BGC-823 cells[1].

Rubropunctatin (0.75-8.0 μg/ml) exhibits DDPH radical scavenging activity, inhibition of super oxide radical generation and ferric reducing activity[2].

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

Cell Viability Assay[1]

Cell Line:	BGC-823 and GES-1cells
Concentration:	1.5, 3, 6, 12, 15, 18, 30 μM
Incubation Time:	24 hours
Result:	Decreased the viability of BGC-823 cells with an IC_{50} of 12.57 μM for 24 h. Did not show obvious cytotoxic effects on the normal cells.

Cell Cycle Analysis[1]

Cell Line:	BGC-823 cells
Concentration:	0, 5, 10, 30 μM
Incubation Time:	0, 6, 12, 24 hours
Result:	Increased the percentage of cells in sub-G1 phase in a dose- and time-dependent manner.

In Vivo

Rubropunctatin (8-32 mg/kg; i.v. for 5 times) has anti-tumor effect mice[1].

Rubropunctamine inhibits 12-O-tetradecanoylphorbol-13-acetate (TPA)-induced inflammation in mice, with an ID_{50} of 0.11 mg/ear[3].

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

Animal Model:	Male nude mice (5 weeks) are inoculated with BGC-823 cells[1]
Dosage:	8, 32 mg/kg
Administration:	I.v. five times (day 1st, 4th, 7th, 10th, and 13th)
Result:	Diminished the tumor volume by 11.1% (8 mg/kg) and 24.2% (32 mg/kg). Reduced the tumor weight by 23.5% (8 mg/kg) and 37.7% (32 mg/kg). No significant difference was observed on the body weight.

REFERENCES

[1]. Zheng Y, et, al. Anti-cancer effect of rubropunctatin against human gastric carcinoma cells BGC-823. Appl Microbiol Biotechnol. 2010 Nov;88(5):1169-77.

[2]. Dhale MA, et, al. Protective and antioxidative effect of rubropunctatin against oxidative protein damage induced by metal catalyzed reaction. Int J Biol Macromol. 2018 Sep;116:409-416.

[3]. Akihisa T, et, al. Azaphilones, furanoisophthalides, and amino acids from the extracts of Monascus pilosus-fermented rice (red-mold rice) and their chemopreventive effects. J Agric Food Chem. 2005 Feb 9;53(3):562-5.

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