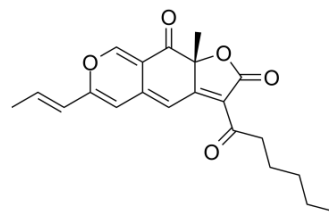


## Rubropunctatin

Cat. No.:	HY-N7766
CAS No.:	514-67-0
Molecular Formula:	C <sub>21</sub> H <sub>22</sub> O <sub>5</sub>
Molecular Weight:	354.4
Target:	Apoptosis
Pathway:	Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Rubropunctatin, an orange azaphilone pigment, is isolated from the extracts of <i>Monascus pilosus</i> -fermented rice (red-mold rice). Rubropunctatin has anti-inflammatory, immunosuppressive and antioxidative effects, and also exhibits anti-tumor activity <sup>[1][2][3]</sup> .																
<b>In Vitro</b>	<p>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<sup>[1]</sup>.</p> <p>Rubropunctatin (5-30 μM; 6-24 h) induces apoptosis in a dose- and time-dependent manner in BGC-823 cells<sup>[1]</sup>.</p> <p>Rubropunctatin (0.75-8.0 μg/ml) exhibits DDPH radical scavenging activity, inhibition of super oxide radical generation and ferric reducing activity<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Viability Assay<sup>[1]</sup></p> <table border="1"> <tr> <td>Cell Line:</td> <td>BGC-823 and GES-1cells</td> </tr> <tr> <td>Concentration:</td> <td>1.5, 3, 6, 12, 15, 18, 30 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>24 hours</td> </tr> <tr> <td>Result:</td> <td>Decreased the viability of BGC-823 cells with an IC<sub>50</sub> of 12.57 μM for 24 h. Did not show obvious cytotoxic effects on the normal cells.</td> </tr> </table> <p>Cell Cycle Analysis<sup>[1]</sup></p> <table border="1"> <tr> <td>Cell Line:</td> <td>BGC-823 cells</td> </tr> <tr> <td>Concentration:</td> <td>0, 5, 10, 30 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>0, 6, 12, 24 hours</td> </tr> <tr> <td>Result:</td> <td>Increased the percentage of cells in sub-G1 phase in a dose- and time-dependent manner.</td> </tr> </table>	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 <sub>50</sub> of 12.57 μM for 24 h. Did not show obvious cytotoxic effects on the normal cells.	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.
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<b>In Vivo</b>	<p>Rubropunctatin (8-32 mg/kg; i.v. for 5 times) has anti-tumor effect mice<sup>[1]</sup>.</p> <p>Rubropunctatin inhibits 12-O-tetradecanoylphorbol-13-acetate (TPA)-induced inflammation in mice, with an ID<sub>50</sub> of 0.11 mg/ear<sup>[3]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>																

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Animal Model:	Male nude mice (5 weeks) are inoculated with BGC-823 cells <sup>[1]</sup>
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.

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## REFERENCES

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- [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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**Caution: Product has not been fully validated for medical applications. For research use only.**

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