Cite this as: Miaoping LIN, Zhenzhou TANG, Jiaxi WANG, Humu LU, Chenwei WANG, Yanting ZHANG, Xinming LIU, Chenghai GAO, Yonghong LIU, Xiaowei LUO. An epipolythiodioxopiperazine alkaloid and diversified aromatic polyketides with cytotoxicity from the Beibu Gulf coral-derived fungus *Emericella nidulans* GXIMD 02509[J]. Journal of Zhejiang University Science B, 2023, 24(3): 275-280. http://doi.org/10.1631/jzus.B2200622

An epipolythiodioxopiperazine alkaloid and diversified aromatic polyketides with cytotoxicity from the Beibu Gulf coral-derived fungus *Emericella nidulans* GXIMD 02509

Key words: ***Emericella nidulans*, marine fungi, aromatic polyketides, epipolythiodioxopiperazines, cytotoxicity**

Research Summary

This study mainly focused on characterization of an epipolythiodioxopiperazine alkaloid and diversified aromatic polyketides from marine fungus *Emericella nidulans* GXIMD 02509 and their cytotoxicity in the following aspects:

- **Fermentation, extraction, and isolation**
- **Structural identification**
- **Cytotoxicity evaluation**
- **Cell apoptosis and cell cycle**

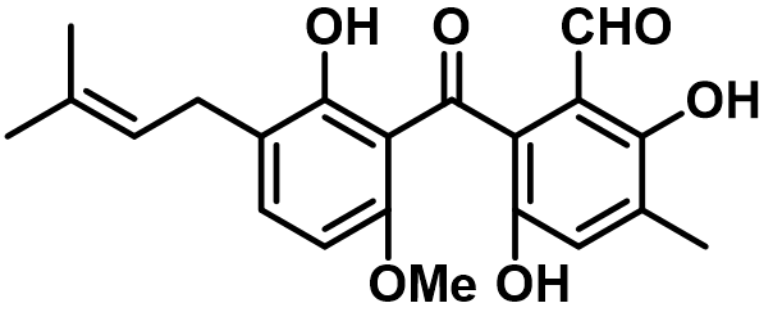
JZUSB

Innovation points

- **A new polyketide 4a-*O*-methoxyarugosin H (1) was characterized from *Emericella nidulans* GXIMD 02509.**

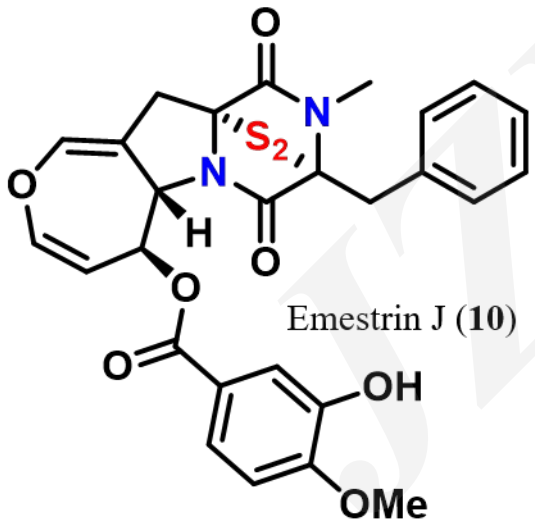
- **Compounds 1−5, 7, and 10 showed cytotoxicity against a small panel of human cancer cell lines, 786-O, SW1990, and SW480, with the IC_{50} values ranging from 4.33 to 33.4 μM.**



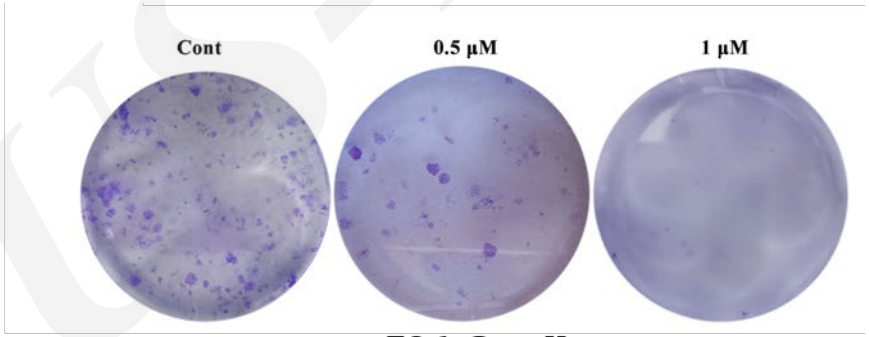


Innovation points

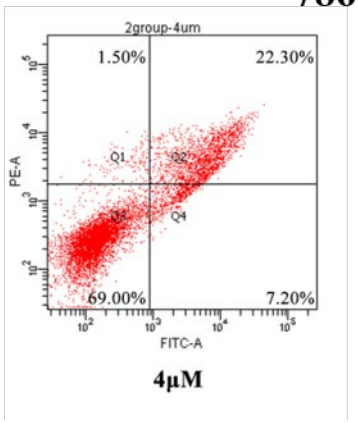
- **Emestrin J (10) suppressed the proliferation, colony formation, and migration of 786-O cells, and further induced 786-O cell apoptosis and blocked the cell cycle at the G2/M phase, serving as a potential anti-tumor lead compound.**



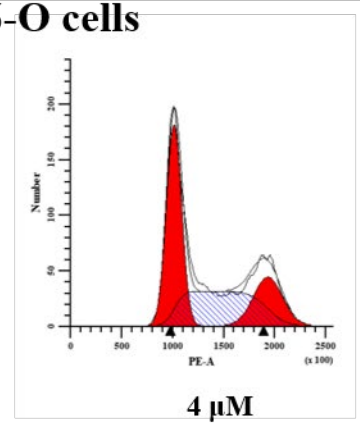
Emestrin J (**10**)



786-O cells



4μM



4 μM