
Molliorin F: a new cytotoxic pyrrole-terpene isolated from the marine sponge *Cacospongia mollior*

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Résumé

Cancer remains the second leading cause of mortality worldwide, driving extensive research efforts aimed at elucidating its underlying mechanisms and developing effective therapeutic interventions. One of the most aggressive types of skin cancer is Melanoma. This is considered curable when localized, but when metastasis occurs, the patient's chances of survival drop (1). Sponges are one of the major reservoirs of natural compounds. These invertebrates are hosts of many bioactive molecules that can be used in many fields, such as pharmaceutical, nutraceutical and cosmeceutical. For this reason, we investigated the potential activity of the extract of the marine sponge *Cacospongia mollior* sampled in the Gulf of Naples. We tested its crude extract against a cancerous cell line and, with the approach of the bioassay-guided fractionation, we identified a new cytotoxic pyrrole-terpene named Molliorin F, which can induce cell death in the melanoma cell line (A2058), which IC₅₀ calculated to be 0.4 $\mu\text{g}/\text{mL}$ (2). In conclusion, our work demonstrated the potentiality of Molliorin F as a drug candidate for the treatment of melanoma.

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Mots-Clés: Biotechnology, cytotoxicity, Molliorin, Marine natural products

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