

Chemical Constituents and Biological activities of the Marine-derived Fungus, *Trichoderma reesei*

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Marine Microbial are well known for producing a wide range of secondary metabolites with interesting biological activities including, antimicrobial, anti-inflammatory, antiviral and anticancer so on. In this study, a symbiotic fungus *Trichoderma reesei* (**MR13-TR01**) was isolated from a sponge *Niphates* sp. was collected from Wan-Li Tong, Pingtung County **2013**. In preliminary bioactivity test this strain (**MR13-TR01**) showed interesting inhibitory activity against *Acinetobacter baumannii*, an emerging opportunistic pathogen has a high incidence among immunocompromised individuals that could be a major cause of nosocomial infections in patients and increase the mortality in hospital. To search for novel bioactive secondary metabolites, by using molecular networking analysis and bioassay-guided fractionation isolation to isolate a series of peptaibols from its ethyl acetate (EtOAc) extract. Moreover, Compound **TRB456-3** was tested against in cytotoxic screening against human oral cancer cell line (OC-2, HSC-3, Ca9-22, OECM-1, CAL27, SCC9) and shows good activity (IC₅₀ value 8.7~9.7 μ M). Structures of these isolates were elucidated by their spectroscopic analysis (CD, NMR, MS) and comparison with literature data.

Key words: *Trichoderma reesei*, Anti-microbial activity, *Acinetobacter baumannii*, molecular networking, peptaibols