



MARINE-DERIVED FUNGI: A CHEMICAL CHARACTERIZATION OF *Aspergillus fischeri*

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INTRODUCTION

Since the beginning of mankind, nature has contributed considerably to the discovery of medicines that strengthen corrective treatments. "More than 700 unique molecular structures have been discovered in marine fungi by 2008" (RAGHUKUMAR 2012, Springer). Bacteria and marine fungi have been shown to be potentially promising sources of a large number of bioactive secondary metabolites, and some of these marine species live in a stressful habitat, under cold, without light and high pressure conditions (DIAN et al. Pharm Sci). Recently, molecules with a high pharmacological value in the fungal family have been known. "Fungi from marine habitats are a prolific source of new chemical diversity and have provided more than 1000 new natural compounds, some of them with clinically relevant pharmacological activity" (MOSTAFA 2011, Nat. Prod. Rep.) The objective of this work was evaluate the chemical composition of the fungus *Aspergillus fischeri* collected from a marine source.

MATERIALS AND METHODS

The extract of *Aspergillus fischeri* (Af), collected and identified at Rok Nai Island, Thailand, was obtained in ethyl acetate. The isolation of the compounds was carried out through chromatographic techniques such as Column Chromatography (CC), Flash Chromatography (FC), Thin Layer Chromatography (TLC) and Sephadex LH-20, and eluted with mixtures of organic solvents. Subsequently, the fractions obtained and isolated substances were analyzed by HPLC-DAD and identified for

RESULTS

From the crude extract 31 fractions were obtained, which were passed by chromatographic techniques obtaining isolated substances. HPLC and TLC were used to analyze the purity of the samples, in both techniques a high purity was observed, therefore an analysis by NMR was carried out. The analysis of the data obtained, as well as comparison with literature data, allowed the identification of substances as **Aszonalenin** (AF10, YIN et al., 2008, The J. Bio. Chem.) **Helvolic Acid** (AF17E, FUJIMOTO et al., 1996, Chem. Pharm Bull) **Aszonapyron A** (AF11A-4B3, YIM, 2014) e **Acetylaszonalenin** (AF16C2B2, YIN et al., 2008, The J. Bio. Chem). Literature reported that fungi *A. fischeri*, isolated from the coastal forest soil in Thailand, resulted in isolation of Aszonalenin and Helvolic Acid (EAMVIJARN A. et al. 2013, Tetrahedron), but the isolation of these 4 substances from the fungus *A. fischeri* of marine origin is not yet described.

CONCLUSION

Through the work developed so far, it was possible to identify by the NMR technique: Aszonalenin, Acetylaszonalenin, Aszonapyron A and Helvolic Acid for the first time of marine source *Aspergillus fischeri*. Future work will allow us to assess the biological potential of these substances.

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