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Biologically active compounds from the red sea sponge *Hemimyscale arabica*

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As part of our ongoing efforts to identify biologically active compounds from marine invertebrates, the organic extract of the Red Sea sponge *Hemimyscale arabica* was investigated. Bioassay-directed fractionation of the organic extract of the sponge gave two new hydantoin alkaloids, hemimyscalin C and (E)-5-(4-hydroxybenzylidene)imidazolidine-2,4-dione in addition to the known compounds hemimyscalins A and B and (Z)-5-(4-hydroxybenzylidene)imidazolidine-2,4-dione. The structure determinations of the isolated compounds were based on interpretation of the spectral data of the compounds including one- (¹H and ¹³C) and two-dimensional NMR (COSY, HSQC and HMBC) studies as well as HRMS. The new compounds hemimyscalin C and (E)-5-(4-hydroxybenzylidene)imidazolidine-2,4-dione displayed variable antimicrobial activities against *E. coli*, *S. aureus* and *C. albicans*. Finally, hemimyscalin C showed moderate antiproliferative activity against the human cervical carcinoma (HeLa) cell line.

Biography

Lamiaa A Shaala has completed her PhD from Alexandria University and Postdoctoral studies from Faculty of Pharmacy at Suez Canal University, Egypt. She has served as a Principal Investigator and Co-Investigator in 16 research projects in the area of drug discovery from marine organisms and marine biotechnology. He has published more than 40 papers in reputed peer-reviewed international journals and has been serving as a Reviewer for several international journals in the field of phytochemistry, marine natural products and biotechnology.

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