B147 Secondary metabolites from the marine sponge *Aplysina ocracea*

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During the searching for new metabolites with potential biomedical interest the study of the Caribbean sponges *Aplysina ocracea*, *A. archeri*, *A. lacunosa* and A. *fistularis* was performed. All the specimens were photographed *in situ* and voucher samples were registered and incorporated in the collections of the Zoological Museum of the University of Amsterdam.

The genus *Aplysina* belonging to the Verongida sponges (order Verongida, family Aplisinidae) has been characterized by the lack of terpenes, production of large amounts of sterols with the aplystane skeleton, and elaboration of bromotyrosine metabolites. These latter compounds have been considered chemical markers for Verongida sponges. Thus, they may be very helpful as additional distinctive characters in the identification of Verongida sponges because sometimes the anatomical characters are insufficient to attaining correct identifications and producing consistent taxonomic data (1).

From the organic extracts (CH_2Cl_2 or CH_2Cl_2-EtOH) of *Aplysina* species analysed the major bromotyrosine compound, 3,5-dibromo-1-hydroxy-4-dimethoxy-2,5-cyclohexadien-1-acetamide, was isolated by flash chromatography on a SiO_2 column with a solvent gradient (*n*-hexane/EtOAc/MeOH) and identified on the basis of IR, MS and NMR (^1H, ^{13}C, DEPT-135, COSY, HMQC, HMBC) and by comparison with spectroscopic data (IR, MS and ^1H NMR) previously reported (2). Formation of a mono-O-acetyl derivative indicated the presence of a single hydroxyl group on the molecule and confirms the assign structure. To the best of our knowledge this is the first time that this ketal was isolated from *A. ocracea* and *A. lacunosa*.

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B148 Bolinaquinone, a marine sesquiterpenoid hydroquinone with acute and chronic anti-inflammatory properties

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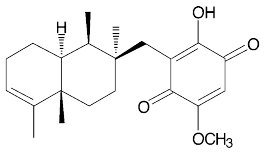
Marine organisms are a source of natural products with a high pharmacological potential (1). In this respect, we have studied the anti-inflammatory properties of bolinaquinone, a marine sesquiterpenoid hydroquinone which is chemically close related with avarol and avarone (2). This compound, which is the main metabolite of the sponge *Dysidea* sp. contains a drimane skeleton. We reported previously, the *in vitro* pharmacological evaluation of bolinaquinone on the inhibition of human synovial secretory PLA_2 and on the modulation of different human leukocyte functions (3). *In vivo*, bolinaquinone reduced the ear oedema induced by TPA after the oral administration of 3.1, 6.2, 12.5, or 25 mg/Kg (49% of oedema inhibition at 3.1 mg/Kg) as well as topically, exerting more potency than indomethacin. The chronic inflammatory response of adjuvant arthritis (by injecting *M. butyricum* 0.1 mg/0.1 ml in mineral oil into de base of the tail) was also reduced (6.2 mg/Kg, twice daily, 7 days) by bolinaquinone with a parallelism with the inhibition of PGE_2 levels in paw homogenates without affecting PGE_2 content in stomach homogenates. Additionally, bolinaquinone inhibited leukotriene B_4 release by human neutrophils stimulated with ionophore A23187 with an IC_{50} value of 2.1 μM as a consequence of a direct inhibition of 5-lipoxygenase activity (IC_{50} =1.3 μM). The present study shows the potential interest of this type of structures in the search for new anti-inflammatory drugs.



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