B145 *In vitro* cytotoxic activity of some Venezuelan marine organisms

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In the last 20 years, research has have been focused on the sea as source of substances with potential biological activity due to the discovery of novel compounds, which display biological properties such as antibacterial, antihelmintic and antitumoral. Venezuela possesses an appreciable biodiversity in its Continental Shelf, which remains mostly unexplored regarding biological properties. Consequently, the aim of the present research was to analyse the *in vitro* cytotoxic activity of some Venezuelan marine species. Various marine organisms were randomly collected at Playa Culí (Estado Sucre, Venezuela), using SCUBA and snorkelling. The marine organisms were immediately preserved in isopropyl alcohol. Samples were macerated, filtrated and concentrated under reduced pressure at 45 °C. Some extracts were fractionated by HPLC. A total of 8 extracts and 4 pure fractions (*Laurencia microladie*, *Purpura patula*, *Acmaea antillarum, Balanus* sp., *Diadema antillarum* and *Holothuria* sp. unidentified green-algae and a clam) were tested against the human cancer cell line, non-small lung cancer cell, applying the SRB *in vitro* assay for cell growth (3). Outstanding growth inhibition at three days exposure time was observed for the fraction Plocamium-1 and the extracts *Acmaea antillarum* and green algae (species unidentified), with IC_{50} values of 23.81, 25.54 and 5.28, respectively. The findings suggest that the marine extracts analysed could represent promising sources of novel active compounds with potential anticancer activity.

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References: 1. Boudouin G. et al. (1983) J. Nat Prod., 46: 681. **2.** Houghton P. (1997) Current Topics in Phytochemistry, London. p 131. **3.** Skehan, P. et al. (1990) J. Nat. Cancer Inst., 82: 1107-1112.

B146 Brasilane-type sesquiterpenoids from the red alga *Laurencia obtusa*

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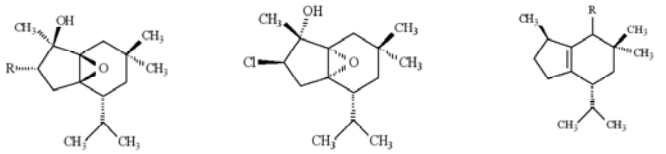
The red alga *Laurencia obtusa* (Huds.) Lamouroux (Rhodomelaceae) is found in most coastal ecosystems around the world and has received extensive attention from many research groups mainly because its structurally unusual secondary metabolites (1).

In the course of our continuing investigations towards the isolation of biologically active compounds from marine organisms of the Greek seas (2,3), we examined recently speciments of *L. obtusa* collected at Symi island in the Aegean Sea.

Three novel rearranged sesquiterpenes (**1-3**), along with the known metabolites brasilenol (**4**) and epibrasilenol (**5**), were isolated from the organic extract of the alga following chromatographic separations (VCC, TLC, HPLC). The new metabolites isolated in minute quantities, possess the unusual skeleton of brasilane and contain the unprecedented 1,6-epoxy moiety. The structures of these natural products, as well as their relative stereochemistry, were established by means of spectral data analysis, including 1D and 2D NMR experiments and MS.



1 R: -Cl
3 R: -Br

2

4 R: —OH
5 R: ····OH

References: 1. Faulkner, D.J. (2002) Nat. Prod. Rep. 19: 1-48. **2.** Iliopoulou, D. et al. (2002) Phytochemistry 59: 111-116. **3.** Mihopoulos, N. et. al. (2001) Tetrahedron Lett. 42: 3749-3752.