

Citotoxic Activity of Extracts and Sesquiterpene Lactones from *Stachycephalum argentinum*

R. Alarcón, C. Vaccarini and V. Sosa

Dpto de Química Orgánica, Facultad de Cs Químicas, UNC. Ciudad Universitaria. 5000 Córdoba. Argentina

E-mail: roalar@dqo.fcq.unc-edu.ar

Abstract: The extracts and sesquiterpene lactones of *S. argentinum* were assayed to determine their biological activity on *Artemia salina*. The most active compound was costunolide (**1**) with LD₅₀ = 62 ppm.

Introduction

Our previous phytochemical study of *Stachycephalum argentinum* (Asteraceae), revealed the presence of several skeletal types sesquiterpene lactones [1].

In order to explore new natural bioactive products, we started an study of different extracts from *S. argentinum* and some of the sesquiterpene lactones isolated, to determine the citotoxic effect against the microorganism *Artemia salina* (Leach).

The Brine Shrimp Bioassay determine that compounds with values of LD₅₀ < 1000 ppm could be considered as citotoxic products [2].

Experimental

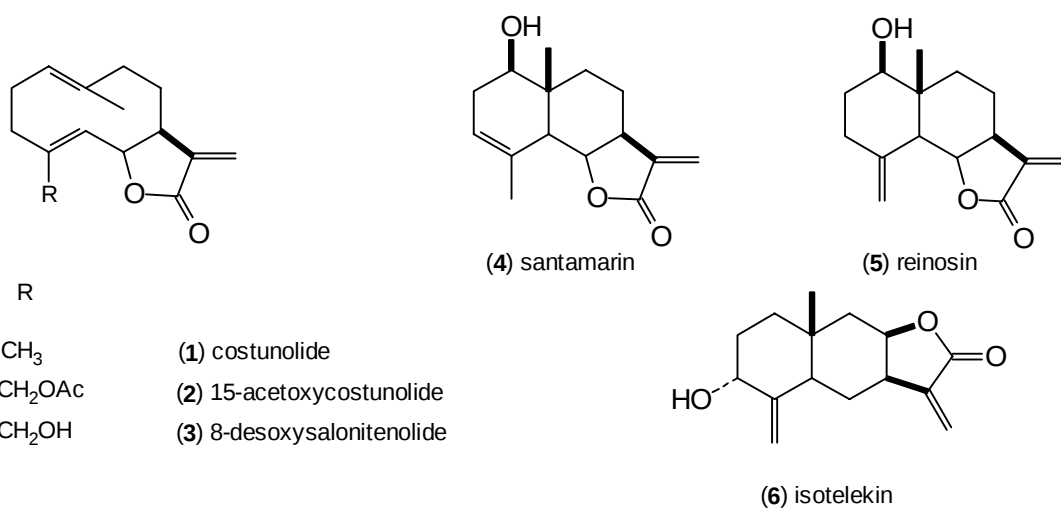
Citotoxic Bioassay against *Artemia salina* was has been described previously [3].

Results and Discussion

Extracts **B** and **C** resulted in a marked loss of toxic activity against *A. salina*. Extract **B** showed 60% lethality and Extract **C** showed 33% lethality at 1000 ppm.

Active compounds against this organism appeared to be costunolide (**1**) (100%), 15-acetoxycostunolide (**2**) (60%) and 8-desoxysalonitenolide (**3**) (100%). Compounds such as the eudesmanolides: **4**, **5** and **6** were inactive against *A. salina*.

The most citotoxic compound was costunolide (**1**) with LD₅₀ = 62 ppm.



References and Notes

1. Lactonas sesquiterpénicas de *S. argentinum*. IV Simposio Internacional Química de Productos Naturales y sus Aplicaciones, 1998, Talca, Chile.
2. Meyer, N.; Ferrigni, N.R.; Putnan, J.E.; et al. *Planta Médica* **1982**, *45*, 31.
3. Mc Laughlin, J. L.; Colman-Saizarbitoria, T.; Anderson, J.E. *Rev. Venezolana de Química* **1995**, *18*, 13.