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

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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 LD$_{50}$ = 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 LD$_{50} < 1000$ 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 LD$_{50}$ = 62 ppm.
References and Notes

1. Lactonas sesquiterpénicas de *S. argentinum*. IV Simposio Internacional Química de Productos Naturales y sus Aplicaciones, 1998, Talca, Chile.