Proceedings International
Platinum Open Access Journal (ISSN 2668-6384)

Proceedings, Abstract
Volume 4, Issue 2, 2022, 60
https://doi.org/10.33263/Proceedings42.060

Biological Activities of Crude saponin Isolates from Two *Rhipsalis* species †

Andrea M. Vatoff [1], Carola A. Torres [1,*]

[1] Instituto de Investigaciones en Procesos Tecnológicos Avanzados (INIPTA, CONICET-UNCAUS), Comandante Fernández N° 755, Presidencia Roque Sáenz Peña, Chaco, Argentina
* Correspondence: carito@uncaus.edu.ar (C.A.T.);
† Presented at The Sixth International Meeting of Pharmaceutical Sciences (RICiFa), November 10-12, 2021, Córdoba, Argentina

Received: 26.04.2022; Revised: 4.05.2022; Accepted: 6.05.2022; Published: 8.05.2022

Abstract: *Rhipsalis baccifera* and *R. lumbricoides* are epiphytic cacti used medicinally by natives of the Chaco. Both species showed the presence of saponins in previous studies. This work aimed to evaluate the antibacterial and anti-inflammatory activity of a saponin-rich fraction of both species. The fractions were obtained by liquid-liquid extraction using chloroform, ethyl acetate, and butanol and reduced to dryness. In vitro anti-inflammatory activity was evaluated by the inhibitory effect on lipoxygenase activity at 234 nm. The results were expressed as IC50 values in µg/ml of reaction. Antibacterial activity was determined by microdilution in broth. The following strains were used: *Enterococcus faecalis* ATCC 29212, *Staphylococcus aureus* ATCC 29213, *Escherichia coli* ATCC 35218, *Pseudomonas aeruginosa* ATCC 27853, three clinical isolates of *S. aureus* and three of *E. coli*. The minimum inhibitory concentration (MIC) and the minimum bactericidal concentration (MBC) were determined. Both fractions showed inhibitory effects against the lipoxygenase enzyme. The IC50 for the *R. baccifera* fraction was 79.5 µg/mL, while for *R. lumbricoides* it was 343 µg/mL. MIC values ranged from 0.75 to 6 mg/mL. The *R. lumbricoides* fraction was active against all bacteria tested. These results are promising and partially confirm the popular uses attributed to these species.

Keywords: *Rhipsalis baccifera; R. lumbricoides;* epiphytic cacti; lipoxygenase activity; antibacterial effect.

Funding

This research was funded by Universidad Nacional del Chaco Austral, PI N° 90.

Acknowledgments

We thank biochemists Virginia Radovancich (Unidad Médica Educativa) and Claudia Fontán (Hospital 4 de Junio) for providing us with the bacterial isolates.

Conflicts of Interest

The authors declare no conflict of interest.