

Bioactive Metabolites Produced by Fungi Cultures

L.M. Levy¹, G. M. Cabrera¹, Jorge E. Wright² and A. M. Seldes¹

¹Depto de Química Orgánica - Facultad de Ciencias Exactas y Naturales - Universidad de Buenos Aires - Ciudad Universitaria - Pab. II - (1428) Buenos Aires, Argentina

²Depto de Biología - Facultad de Ciencias Exactas y Naturales - Universidad de Buenos Aires - Ciudad Universitaria - Pab. II - (1428) Buenos Aires, Argentina

E-mail: gabyc@qo.fcen.uba.ar

Abstract: A screening of metabolites guided by antimicrobial and cytotoxic bioassays was conducted with several fungi. The bioactive compounds were isolated and identified from the active extracts.

Introduction

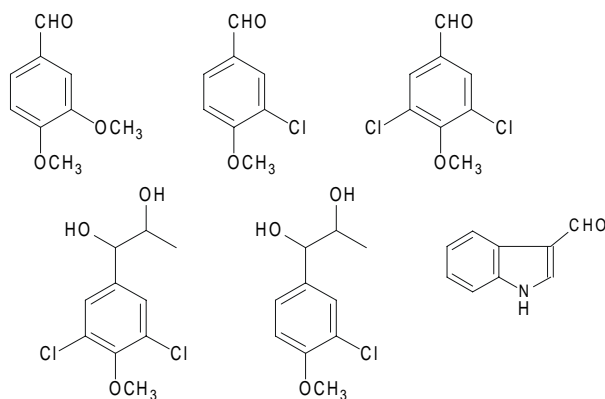
As fungi are increasingly being investigated for their production of biologically active secondary metabolites since they are known to produce compounds with a variety of biological activities, we undertook a screening program for antifungal and antibacterial fungal metabolites.

Results and Discussion

Different strains of fungi were cultured in small scale. Extracts of the mycelium and medium were made. The extracts were bioassayed. Antibiotic activity against *Escherichia coli*, *Bacillus subtilis*, *Staphylococcus aureus* and *Candida albicans*, and cytotoxicity against different tumor cell lines were assayed. The fungi with active extracts were cultured in a greater scale. From a first collection of ten fungi, two were selected because of their antibiotic activity against Gram positive bacteria. These strains were *Bjerkandera adusta* and *Coriolellus malicola*.

The extracts of these cultures were fractionated by vacuum chromatography and then the active compounds were separated and purified by preparative thin layer chromatography or HPLC. The pure compounds were identified by spectroscopic methods, 1D and 2D NMR and Mass Spectrometry.

The following compounds were isolated and identified from the extract of the culture of *Bjerkandera adusta*. The halogenated compounds are responsible for the antibiotic activity.



The bioactive compounds isolated and identified from *Corirolellus malicola* were known triterpene acids.

Experimental

Most of the fungi were culture in malt extract medium at 25°C. For the culture of *B. adusta* a special medium was employed [1].

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References and Notes

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