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# Antimicrobial Potential of *Fomitopsis pinicola*: From Bioactivity Screening to Compound Identification

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## Résumé

Antibiotic resistance is one of the most pressing global health threats, with an increasing number of pathogens becoming resistant to conventional treatments. It was reported that by 2050, about 10 million of deaths will be attributed to antibioresistance(1). Macromycetes are currently considered as valuable sources of diverse secondary metabolites including antimicrobial compounds (2)(3). This research work focuses on the macromycete *Fomitopsis pinicola*, a wood-rotting basidiomycete widely distributed across the Northern Hemisphere and known for its chemical diversity, such as lanostane-type triterpenoids(4). The aim of this study is to explore the antimicrobial potential of *F. pinicola* through bioautography-guided fractionation. Among the three extracts obtained from *F. pinicola*, ethyl acetate crude extract was the most promising and was tested against *Escherichia coli*, *Staphylococcus aureus*, *Staphylococcus epidermidis*, and *Candida albicans* using two complementary methods, TLC-bioautography method and the spot-on-lawn method. Preparative HPLC fractionation of the ethyl acetate crude extract, followed by antimicrobial activity screening led to several bioactive fractions. The active fractions are currently under investigation in order to purify the most promising ones and carry on their chemical characterization using HPLC-HRMS and NMR analyses. Among the active compounds observed during HPLC analysis, one of them is already isolated, purified and the structure is under elucidation. These preliminary findings support the potential of *F. pinicola* as a new source of antimicrobial compounds. More antimicrobial compounds are expected from this work as well as their respective antimicrobial activities.

**Mots-Clés:** *Fomitopsis pinicola*, antimicrobial activity, bioautography, triterpenes, natural products

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