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PLANT-ASSOCIATE MICROBIAL SYSTEMS AS A SOURCE OF BIOLOGICALLY ACTIVE COMPOUNDS.

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Plants and microorganisms synthesize most of the secondary metabolites with biological activity. Endophytic microorganisms such as bacteria or fungi produce many of these secondary metabolites. The aim of the present research was to determine if the microorganisms associated to *Magnolia dealbata* could synthesize compounds of biological interest. First, we isolated 107 microorganisms, 54 bacteria and 53 fungi, from different structures of the tree *Magnolia dealbata* Zucc. Screening tests revealed 14 distinct inhibition patterns against *Micrococcus luteus*, *Bacillus subtilis*, *Escherichia coli* and *Saccharomyces cerevisiae*. Eight endophytic bacteria showed dissimilar and important activities against *M. luteus* and *B. subtilis* and a reduced inhibition of *E. coli* and *S. cerevisiae*. Different species belonging to the fluorescent group of the *Pseudomonas* genus were identified through molecular analyses of 16S rDNA and Scanning Electron Microscopy. Growth of these strains in King's B medium showed the presence of fluorescent siderophores. Tests against tumoral cell lines were carried out using three *Pseudomonas* strains. Cell free supernatant 10-fold concentrates, were probed against MCF-7, HepG2 and HeLa tumor cell lines and viability was assayed using MTT. Using CDDP and Honokiol as standards, we found strong cytotoxic activity of the *Pseudomonas* strain extracts against tumoral cell lines. We determined that this activity remains even after heat treatment.