

Title: POTENTIAL OF ENDOPHYTIC FUNGI OF *Hymenocallis littoralis* (Jacq.) (AMARYLLIDACEAE) FOR SECONDARY METABOLITES PRODUCTION

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Summary

Endophytic fungi have a leading biotechnological potential. This is mainly the ability of these microorganisms to produce secondary metabolites with an interest in the pharmaceutical industry. *Hymenocallis littoralis* (Jacq.) produces alkaloids like licorine and pancrastina, besides antiviral, antineoplastic, antimicrobial and antioxidant properties. In order to contribute to the knowledge of the potential of endophytic fungi present in the cells of *H. littoralis* species, this study aims to cultivate these micro-organisms to produce secondary metabolites to be investigated by Thin Layer Chromatography (TLC) with the use of specific reagents for comparing these metabolites with those present in the wild plant. Were investigated 28 strains of endophytic fungi isolated from *H. littoralis*. Among those, 19 come from the leaves and other from the bulbs. Fungi were inoculated on SPY medium (sucrose, pepitona, yeast extract and agar) for 15 days. After that period, the gel (20 ml of SPY medium) containing the mycelium was transferred to 200 mL conical glass flask containing 120 mL of a mixture of methanol, ethyl acetate and water in the ratio of 8:1:1, respectively. The material was filtered and the solvent was evaporated. Each one of these extracts was analyzed by TLC whose mobile phase was methanol and butanol in the ratio of 6:4, respectively. The developers used to detect metabolites were: Dragendorff's reagent for alkaloids, 20% phosphomolybdic acid in ethanol to triterpenoids and lipids and 10% potassium hydroxide in ethanol to coumarins, anthrones and antracnones. In this study, it was found that all the analyzed strains produce one or more secondary metabolites from the classes described above. All 28 extracts showed the presence of lipids or triterpenoids classes. It was found that 15 extracts presented groups of substances belonging to the class of coumarins and 11 belonging to the class of anthrones. Although, only one extract was positive to alkaloids detection. There is no data in the literature on endophytic fungi of *H. littoralis*. Classes of metabolites found in the studied extracts confirm the potential of these microorganisms in the production of biomolecules for biotechnological interest.

Keywords: lipids, triterpenoids, coumarins, anthrones, alkaloids.

Development agency: FAPESPA, CNPQ, CAPES