

## STANDARDIZED EXTRACTS FOR THE TREATMENT OF CHRONIC DISEASES

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The increase in human life expectancy has required, correspondingly, development of drugs to treat chronic diseases affecting the digestive tract (gastric and duodenal ulcers, ulcerative colitis and Crohn's disease), diabetes, cancer and other inflammatory diseases. The safety use of standardized herbal drugs has shown promising results for treating these diseases and this project aims to study Brazilian plant species that may be used in the treatment of human chronic diseases.

Recently, the Brazilian Health Ministry published a list of 71 plant species as potential sources for herbal medicines. Besides its intrinsic importance, this group is not sufficient enough to meet the needs of governmental health plans, including the National Policy on Herbal and Medicinal Plants. In addition, there are serious deficiencies in the correct chemical characterization of raw vegetables, as well as the evaluation of their pharmacological and toxicological activities, essential steps to ensure efficacy and safety of herbal medicines.

The current project proposes to prepare plant extracts according to pharmacopoeia standards and their analysis through pharmacological and toxicological assays. The most promising extracts have been standardized according to international procedures.

## SUMMARY OF RESULTS TO DATE AND PERSPECTIVES

The chemical profile of the investigated plant species has shown the presence of flavonoids, catechins, tannins, phenolic acids, saponins, alkaloids, terpenes and aliphatic molecules. Many of the biological results can be correlated to the chemical structures of the plant constituents. Plants containing phenol derivatives have shown significant antioxidant activity, whereas those containing flavonoids, catechins and tannins exhibit antiulcer activity, sometimes resulting in mutagenicity. Extracts containing nonpolar molecules, such as terpenes, shows significant anti-inflammatory activity.

It is important to point out that our experiments have demonstrated that some phytopreparations displays high variation and low stability regarding their chemical composition. This result might impair the use of these extracts as phytomedicines.

In general, the assays with the selected species have confirmed the initial ethno pharmacological survey, with several promising results. However, some species not used in the folk medicine, has shown higher activity than those popularly consumed. On the other hand, some species popularly used has shown pronounced toxicity and mutagenicity, suggesting caution regarding its indiscriminate use as phytomedicines.

## MAIN PUBLICATIONS

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