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IN VITRO CYTOTOXICITY AND ANTI-HERPES SIMPLEX VIRUS ACTIVITY OF *GRAPTOPETALUM PARAGUAYENSE*. WALTHER

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Herpes simplex virus types 1 (HSV-1) and 2 (HSV-2) are common human pathogens associated with orofacial infections, genital lesions and encephalitis. The toxic side effects and the emergence of virus strains that are resistant to the drugs, enhance the need for new effective compounds against viral infectious diseases.

The objective of our examination is to evaluate the *in vitro* anti-herpetic and cytotoxicity of *G. paraguayense* extracts using colorimetric assay.

Three main fractions were obtained – A (lipids), B (amino and organic acids, carbohydrates) and C (phenolic acids). The composition of each was determined by GC-MS analysis. The capacity for inhibition the lytic activity of HSV-1 Victoria strain and HSV-2 Bja strain and the reduction of viability of infected or uninfected cell cultures were defined by MTT assay. Data were used to calculate CC₅₀. The cytopathic effect (CPE) was expressed as a percentage of the optical density of the sample compared with untreated virus-infected cells. Acyclovir was used as positive control.

Fraction C has not CPE on human cell lines RD and Lep and inhibited HSV replication in dose-dependent manner more efficiently against HSV-1, whereas its effect to HSV-2 was significantly lower. A and B fractions showed no antiviral effect.

The mechanism of the antiviral action of fraction C is not yet completely identified. Further studies are needed in order to verify which compounds could be responsible for this activity and how they exert their antiviral effects.

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DEVELOPMENT OF EXTRACTION AND MICROEXTRACTION TECHNIQUES TO CHARACTERIZE LEAVES OF DIFFERENT CULTIVARS OF *PRUNUS DOMESTICA* L.

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Despite the large number of synthetic pharmaceuticals, herbal products contain high amount of biological active compounds with a less harmful effect on human body than their synthetic counterparts. In the present work, leaves of different cultivars of *Prunus domestica* L. were analyzed for the establishment of phenolic pattern in order to use them as potential sources of antioxidants in the pharmaceutical and food industry. Modern extraction procedures such as microwave extraction (MAE) [1], dispersive liquid-liquid microextraction [2] and sugaring-out liquid-liquid extraction technics were optimized in order to obtain full multi-component panel of phenolic compounds followed by HPLC-PDA analysis [3]. The best extraction was achieved using MAE in water:methanol (30 : 70) medium under microwave irradiation at 80°C for 13 min 8 s and was applied for quantitative analysis of phenolic compounds in fourteen cultivars of *domestica*. The total amount of phenolic compounds varies from 10141.18–415772.22 µg/g extract. The antioxidant capacity of *Prunus* leaves was tested via several methods (DPPH, TEAC, etc.), as well as by assessing their total bioactive components (phenolic and flavonoids). The highest total phenolic contents were obtained for cultivars Ialomita (139.66 mg GAE/g extract), Alutus (139.15 mg GAE/g extract), and Tita (135.30 mg GAE/g extract). These findings suggest that leaves of *P. domestica* could be considered as potential sources of bioactive compounds for the design of novel phytopharmaceuticals.

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