Antioxidant activity of methanolic extract and flavonoids from *Serjania erecta* Leaves

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Introduction: *Serjania erecta* commonly know as "cipó-cinco-folhas" is recommended for treatment of inflammatory diseases and ulcers, and the tea leaf is used as a menstrual regulator. Belonging to the family Sapindaceae, it presents as main secondary metabolites saponins and flavonoids. This latter class of compounds has potential antioxidant activity and it is related in the treatment of cancer and neurodegenerative diseases.

Experimental Part: *Serjania erecta* leaves were collected in the Collection of Medicinal Plants from UNAERP, dried and crushed. The plant material was subjected to successive maceration with different extracting solvents, resulting in extracts called chloroformic, methanolic and aqueous. Part of the methanolic extract was applied to a column packed with Sephadex LH20, using as mobile phase ethanol 95%, the other part was partitioned with hexane, chloroform and ethyl acetate, yielding fraction called FA, which was applied in column packed with silica gel 60 mesh, eluted with chloroform, ethyl acetate and methanol. The presence of flavonoids in the fractions collected from both columns was analyzed by thin layer chromatography. The fractions of interest were purified by high performance liquid chromatography. The pure fractions were analyzed by high performance liquid chromatography, along with commercial standard. The antioxidant activity was evaluated by DPPH assay, performed in triplicate samples and rutin was used as standard.

Results/Discussion: The purification process resulted in the flavonoid isovitexin, wich was confirmed by presenting the same characteristics as the standard chromatographic analysis and the other flavonoid were analyzed by ¹H NMR and ¹³C being identified as quercetrin. The DPPH test showed antioxidant activity of 93%, 88%, 89% and 9% for rutin, methanolic extract, quercetrin and isovitexin, respectively.

Conclusion: We conclude that the methanol extract from leaves and the flavonoid quercetrin have potential antioxidant activity compared with the standard rutin.

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