



PHOTOPROTECTIVE AND PHOTOSAFETY ASSESSMENT OF DIFFERENT EXTRACTS OBTAINED FROM FRUITS OF [*Myrciaria Cauliflora* (Mart.) O. Berg]

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INTRODUCTION

UV radiation, along with other factors to which the skin is constantly exposed, is primarily responsible for photoaging. Therapeutic alternatives for the reduction of UV radiation damage are the use of topical or oral antioxidants and the use of photoprotectors. *Myrciaria cauliflora* acts as an endogenous antioxidant and is therefore a good alternative for skin protection against photoaging. Thus, the objective of the present study was investigate the antioxidant and photoprotection properties of the extract of the green and mature fruits of *M. cauliflora* and to develop a phytocosmetics, aggregating these potential potentials.

MATERIAL AND METHODS

The extracts were prepared using fruits from *M. cauliflora*, resulting in six different extracts. From these, we performed dry matter analysis, determined the total amount of phenolics by the Folin-Ciocalteu method and used the DPPH method to evaluate the antioxidant activity of the extracts. We performed the FPSE determination by the Mansur method, hemolysis and photohemolysis. Using *in vitro* methods, extract cytotoxicity, cytoprotection and photochemoprotection against UVA and UVB radiation were evaluated in fibroblast (L929) cells. The HET-CAM and Agarose Overlay tests were performed to assess the degree of irritation.

RESULTS

The data obtained showed the value of the total phenolic content of the seed extract of the lyophilized green fruit (A) and the seed extract of the "in natura" (F) green fruit were higher than in the fruit extract mature lyophilized) was found the lowest value. The extracts A (273.16 µg/mL) and F (321.37 µg/mL) extracts were lower in extracts than in extract B (872.85 µg/mL). Once the extracts of *M. cauliflora* were shown to have antioxidant activity, the next step was to determine the FPSE. The highest SPF found was 14 at the concentration of 0.250 µg/mL extract A. We then performed the hemolysis assays, and the data obtained in these experiments demonstrated that extracts of *M. cauliflora* are not hemolytic at concentrations below 500 µg/mL. HET-CAM, was used to observe if extracts of *M. cauliflora* would promote hemorrhage, lysis of vessels or coagulation, it did not produce damages in CAM. The extract protected L929 cells from the action of UVA and UVB rays was classified as a non-irritating structure by the Agarose Overlay experiment.

CONCLUSIONS

Together the results the results herein obtained suggest that *M. cauliflora* fruit extract as a possible active in a phytocosmetic due to the presence of antioxidant and photoprotective activity, as well as absence of hemolytic and irritant potential.

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