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ANTIGLYCANT, ANTIOXIDANT ACTIVITY AND TOXICITY EVALUATION OF LEAVES OF *Eugenia brasiliensis* EXTRACT AND FRACTIONS

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INTRODUCTION

Skin care is an important topic to health and well-being and is extensively explored by the industry. *Eugenia brasiliensis* (Myrtaceae), known as "grumixama" is native to the Atlantic Forest and is present in Vale do Itajaí, Brazil. The objective of this work was to evaluate the antioxidant, antiglycant activity and the toxicity of the crude extract and fractions of *E. brasiliensis* leaves as a potential application for phytocosmetic use.

MATERIAL AND METHODS

The leaves of *E. brasiliensis* were collected in May/21 in Balneário Piçarras, SC, Brazil and identified by Prof. Dr. André Luis de Gasper. The leaves were dried, powdered and macerated in 70% ethanol to obtain the crude extract (EBH). The EBH was partitioned into dichloromethane (FDM), ethyl acetate (FAE) to obtain the fractions, in addition to the aqueous fraction (FA). Total phenolic compounds, total flavonoids and total flavanols were quantified. The *in vitro* antioxidant activity was determined by the methods of DPPH, chelating potential of ferrous ion, scavenging of nitrogen free radicals (NO), reducing potential of ferric ion and scavenging of superoxide anion, in addition of antiglycant activity. Toxicity was evaluated by the HET-CAM method.

RESULTS

EBH and FA had the highest levels of total phenolics and total flavanols (182.30 mgAG/g and 415.93 mgCAT/g; 235.50 mgAG/g and 504 mgCAT/g). These samples also demonstrated low IC_{50} for DPPH test (35.18 and 26.02 µg/mL), high superoxide anion sequestrant capacity (77.27% and 78.67%) and high ferric ion reduction (408, 84 and 500.08 mgAA/g). The FA presented a closer nitric oxide scavenging capacity (36.31%) when compared to the standard gallic acid (34.52%). Regarding the antiglycation activity, the FAE showed a higher percentage of inhibition of oxidative glycation (62.63%), compared to the standard quercetin (83.99%). In the toxicity test, except for FDM, all samples had a score of 0 (non-irritating).

CONCLUSIONS

EBH and FA from *E. brasiliensis* leaves showed potential antioxidant activity. FAE has been shown to have antiglycant activity. These fractions were non-irritating by the HET-CAM method. These results demonstrate the potential of this plant as a bioactive in phytocosmetic products.

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