

Medicina

EVALUATION OF TOTAL PHENOLIC CONTENT IN HYDROETHANOLIC EXTRACTS OF THE MEDICINAL PLANTS *Bryophyllum daigremontianum* AND *Momordica charantia*.

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Resumo

Phenolic compounds are secondary metabolites widely distributed in the plant kingdom. These are organic and bioactive compounds containing a hydroxyl group (OH) attached directly to a carbon atom of an aromatic ring. They are recognized for their antioxidant, anti-inflammatory, and anticancer properties. These characteristics make phenolic compounds essential for protection against free radicals and cellular oxidative stress, which are associated with various functional cellular disorders and the formation of tumors. This study aimed to quantify the total phenolic content in hydroethanolic extracts of *Bryophyllum daigremontianum* (Arato) and *Momordica charantia* (São Caetano melon or Bitter Melon), contributing to the understanding of their antioxidant, anti-inflammatory potential, and possible therapeutic applications. The total phenolic content of the hydroethanolic extract was determined using the Folin-Ciocalteu reagent. In summary, 50 µL of extract and fractions or a standard solution of gallic acid (0.5% in ethanol PA) was mixed with 500 µL of Folin-Ciocalteu reagent, followed by the addition of 7% sodium bicarbonate (Na₂CO₃). The mixture was then incubated in the dark at room temperature for 120 minutes and centrifuged at 5,000 rpm. An aliquot of 275 µL of each triplicate sample was added to 96-well polystyrene microplates. A calibration curve ranging from 0.062 to 0.004 mg/mL in a gallic acid ethanol solution was obtained. The total phenolic content was expressed as milligrams of gallic acid equivalent (GAE) per gram of crude extract, calculated using the formula $y = 211.22x + 0.0832$ ($R^2 = 0.9985$). The result was expressed as mg of gallic acid equivalent per gram of extract (mg EqAG/g). The results indicate that the leaves of *Bryophyllum daigremontianum* contain the highest total phenolic content (2,64 mg/eq/Ag), followed by the leaves of *Momordica charantia* (1,18 mg/eq/Ag) and the fruit of *Momordica charantia* (0,23 mg/eq/Ag). These data provide a basis for future investigations into the therapeutic properties of these plants and the potential development of medicines using their phenolic compounds, with possible anti-inflammatory and cancer-preventive activities. Acknowledgements: UFLA, FAPEMIG, CAPES, CNPq.

Palavras-Chave: Bioactives, cancer, antioxidants.

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