Antiulcerogenic Activity of Crude Extract, Fractions and Populnoic Acid Isolated from Austroplenckia populnea (Celastraceae)

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Many plant crude extracts and their isolated compounds are the most attractive sources of new drugs and show promising results for the treatment of gastric ulcers. Austroplenckia populnea is commonly known as “marmelinho-do campo, mangabeira-brava, mangabarana and vime” and it has been used in folk medicine as anti-dysenteric and anti-rheumatic. Powdered bark wood (3.25 kg) was macerated with aqueous ethanol (96%) and the extract was concentrated under reduced pressure to yield 406 g of crude hydralcoholic extract. The hydralcoholic extract was suspended in aqueous methanol and partitioned with hexane, chloroform and ethyl acetate (EtOAc) in sequence, yielding 8.0 g, 9.5 g and 98.17 g of crude extracts, respectively. Chromatography of the hexane extract over a silica gel column led to the isolation of the triterpene populnoic acid. The oral administration of hydralcoholic, hexane, chloroform and EtOAc extracts (200 mg/kg) decreased the ulcer lesion index (ULI) by 83.15%, 46.87%, 32.2%, 68.12%, respectively. Oral administration of populnoic acid (100 mg/kg) diminished the ULI by 55.29%. All the obtained results were significant in comparison with the negative control, with exception of the chloroform extract.

Key words: Austroplenckia populnea, Gastric Ulcer, Populnoic Acid, Antiulcerogenic Activity