Biological activity and chemical characterization of Pouteria lucuma seeds: A possible use of an agricultural waste

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Pouteria lucuma fruit is widely used to prepare cakes, ice creams and juice or also commercialized as pulp and flour. As result of this business thousands of tons of seeds are generated as an agricultural waste. This study presents the antioxidant and antiulcer activities, and the identification of secondary metabolites by UHPLC/ESI/MS/MS of an agroindustrial waste of Pouteria lucuma seeds. Fifty-nine compounds were tentatively identified including eight aminoacids, five organic acids, one nucleoside, five phenolic acids, five phenolic alcohols, nineteen flavonoids, six lipids, and seven unknowns in the methanol extract of P. lucuma seeds. The total phenolic content of the seeds was 52.82 ± 0.09 ?mol GAE/g dry weight, while total flavonoid content was 5.99 ± 0.01 ?mol Q/g dry weight. The antioxidant activity was 58.14 ± 0.05, 66.97 ± 0.00, 272.50 ± 0.00, and 67.02 ± 2.23 for the DPPH, ABTS, FRAP, and superoxide anion assays, respectively. The highest gastroprotective activity was obtained at 100 mg/kg (78%), which as higher than the positive control lansoprazole (75%). Our findings showed that P. lucuma seed extracts have moderate to high antioxidant activity and gastroprotective properties. Therefore, it was demostrated that lucuma seeds commonly eliminated as an agricultural industry waste, could be useful for the preparation of nutritional supplements.