Abstract

In this study, extracts of plant species from the Cerrado biome were assessed in order to find potential inhibitors of human salivary alpha-amylase. The plants were collected and extracts were obtained from leaves, bark, and roots. We performed a preliminary phytochemical analysis and a screening for salivary alpha-amylase inhibitory activity. Only three botanical families (Sapotaceae, Sapindaceae and Flacourtiaceae) and 16 extracts showed a substantial inhibition (>75%) of alpha-amylase. The ethanolic extracts of Pouteria ramiflora obtained from stem barks and root barks decreased amylolytic activity above 95% at a final concentration of 20 g/mL. Thus, adult male Swiss mice were treated orally with P. ramiflora in acute toxicity and glycemic control studies. Daily administration with 25, 50 and 100 mg/kg of aqueous extract of P. ramiflora for eight days can reduce significantly body weight and blood glucose level in mice. These data suggest that the crude polar extract of P. ramiflora decreases salivary amylolytic activity while lowering the blood levels of glucose.

Keywords

Alpha-amylase inhibition, hypoglycemia, Pouteria ramiflora, Sapotaceae.