ABSTRACT

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STUDY OF ANTIDIABETIC ACTIVITY OF "GREEN TEA" SOURSOP LEAF BREWING
(xviii+ 164 pages: 46 figures, 9 tables, 24 appendices)

Abstact

Soursop (Annona muricata L.) leaf contained tannin, flavonoid, and phenolic. These compounds could act as antidiabetic agent. This research was aimed to investigate the effect of brewing temperature and brewing time on antidiabetic properties in green tea from soursop leaf. Green tea from soursop leaf was brewed at 80°C, 90°C and 100°C for 15, 30 and 45 minutes. Antidiabetic activity was measured using enzymatic assay. The best combination temperature and brewing time is 100°C for 30 minutes. The IC₅₀ value was the lowest on brewing temperature at 100°C, with result (515.03±140.22) ppm. Total phenolic was the highest in 100°C brewing temperature, which produced (210.87±29.56) mg GAE/L sample, and the lowest at 15 minutes brewing time, with result (218.87±27.35) mg GAE/L sample. Total flavonoid gave the lowest result at brewing temperature 80°C, produced (59.01±10.61) mg QE/L sample. Total tannin in all brewing time was similar at 100°C brewing temperature. From organoleptic test, brewing with longer time gave more brown color, aroma and astringent taste in tea. There was correlation between IC₅₀ value with total tannin and total flavonoid. However, there was no correlation between IC₅₀ value and total fenolic. Based on toxicity test (BSLT), fresh soursop leaf and green tea from soursop leaf were categorized as non toxic. Green tea from soursop leaf had more antidiabetic activity than fresh soursop leaf. IC₅₀ of green tea from soursop leaf was lower than fresh soursop. Total phenolic and total flavonoid was higher in green tea from soursop leaf than fresh soursop leaf.

Keywords: “green tea” soursop leaf, antidiabetic activity, inhibition enzyme α-glycosidase, brewing temperature, brewing time.

References: 84 (1952-2014)