216/B

Determination of antioxidant activity of Aloe Vera (*Aloe barbadensis*) gel

B. M. V. Chathurangi* and K. D. P. P. Gunathilake

Department of Food Science & Technology, Faculty of Livestock, Fisheries & Nutrition, Wayamba University of Sri Lanka, Makandura, Gonawila.

Aloe Vera (*Aloe barbadensis*) is a perennial succulent plant and has been used for traditional medical purposes for thousands of years, because of its therapeutic properties. However there is not much research done on the antioxidant activity of Aloe Vera. This research was done to determine antioxidant activity of the methanolic extract of Aloe Vera gel. A freeze dried sample was extracted with 80/20 v/v (Methanol/Water) methanol for bio assays. Total phenolic content, total flavonoid content, total antioxidant capacity, DPPH free radical scavenging and singlet oxygen scavenging activity of the extracts were evaluated for Aloe Vera gel. Results revealed that the total phenolic content and total flavonoid content of Aloe Veragel was 0.095 ± 0.01 mmol Gallic acid equivalents/g of DW and 0.014 ± 0.01mmol Rutin equivalents/g of DW respectively. Total antioxidant capacity of Aloe Veragel was 1.31 ± 0.02 mmol Ascorbic acid equivalents/g of DW whereas the radical scavenging activity of Aloe Veragel showed 59.29 ± 0.14 mg/mL of DW Ascorbic acid equivalents. Raw Aloe Vera extracts showed about 0.56 ±0.05 mmol Gallic acid equivalents/g of DW and for singlet oxygen scavenging activity. In conclusion, Aloe Vera has shown significant antioxidant potential towards scavenging free radicals and some reactive oxygen species and therefore it can be used as a natural source of functional ingredient for functional food formulations to combat chronic diseases.

Keywords: Aloe Vera; antioxidant activity; phenolics; singlet oxygen; free radicals

E-mail: vishu.chathurangani@gmail.com