ANTIOXIDANT PROPERTIES OF PISANG ABU (*MUSA PARADISIACA)* AND PISANG KAPAS (*MUSA ACCUMINATA)* PEEL

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ABSRACT

Three different types of banana peel were evaluated on their antioxidant capacities. Effects of solvent type, solvent concentration and extraction time on antioxidant capacity of different cultivar of bananas namely unripe Pisang Abu (PAU), ripen Pisang Abu (PAR) and ripen Pisang Kapas (PKR) were investigated. Total phenolic content (TPC) was determined by Folin-Ciocalteu method while their antioxidant activity was evaluated by 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical scavenging assay, 2,2'-azinobis (3-ethylbenzothiazoline-6-sulfonic acid)(ABTS) assay and beta-carotene bleaching (BCB) assays. For PAU, 90% acetone with 4 hours extraction was the optimised extraction condition, yielding highest TPC value of 44.63±0.06mg GAE/g extract. Its antioxidant activity on DPPH, ABTS and BCB was 81.43±0.52%, 79.56±0.23% and 81.11±0.27%, respectively. On the other hand, 70% methanol with 4 hours extraction was best found parameters for PAR, giving maximum value of 5.27±0.09mg GAE/g extract of TPC, 53.16±0.79% for DPPH, 53.54±0.44% for ABTS and 62.01±0.39% for BCB. The optimised parameters for extraction of PKR were found to be 70% ethanol of 4 hours extraction time. It highest TPC value was 14.78±0.17mg GAE/g extract, while its antioxidant activity for DPPH, ABTS and BCB was 51.74±0.59%, 50.46±0.42% and 61.22±0.50%, correspondingly. Correlation of TPC and antioxidant activity of PAU, PAR and PKR was analysed. Strong positive correlation between TPC and antioxidant activity (DPPH, ABTS and BCB) was found in PAU, PAR and PKR. This proposed that the antioxidant activities were attributed mainly by phenolic compounds containing in banana peels. It is suggested that banana peels are potential free radical scavengers. Improvement on various aspects is necessary to maximise the antioxidant activity of banana peels. Its application in various industries could be analysed to make it a cost effective materials.