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Antioxidant activity of dried and rehydrated *Kappaphycus alvarezii* from Langkawi, Kedah and Semporna, Sabah

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Abstract : The aim of this study was to determine the antioxidant activity of dried and rehydrated Kappaphycus alvarezii from Langkawi, Kedah and Semporna, Sabah. The antioxidant activity in K. alvarezii was determined by using total phenolic content (TPC), 2,2diphenyl-1-picrylhydrazyl (DPPH) scavenging assay, Trolox equivalent antioxidant capacity (TEAC), Ferric reducing antioxidant power (FRAP) and oxygen radical absorbance capacity (ORAC). Comparison between dried and rehydrated of K. alvarezii indicated that the rehydrated was significantly (p<0.05) high in antioxidant activity compared to dried. While, the Langkawi's rehydrated seaweed (119.3 mg GAE/100 g of dried weight (DW) sample) has significantly (p<0.05) higher TPC value compared to Semporna (89.2 mg GAE/100 g of DW sample). The DPPH value of rehydrated seaweed from Semporna was 34.6% and significantly (p<0.05) higher compared to seaweed from Langkawi which was 27.5% in value. Antioxidant activity for FRAP and ABTS assay of rehydrated seaweed from both locations showed no significant different (p>0.05) value. While, the Langkawi's rehydrated seaweed (73 µmol TE/100 g of DW sample) showed significantly (p<0.05) higher ORAC value compared to Semporna (53.8 µmol TE/100 g of DW sample). Thus, the finding in this study, demonstrated that rehydrated K. alvarezii possesses higher antioxidant activity compared to dried seaweed. Keywords : Total phenolic content (TPC), antioxidant activity, seaweed, Kappaphycus alvarezii.

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