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Antioxidant Activity Of Gracilaria Fisheri Extract

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Abstract : The red seaweed Gracilaria fisheri, widely distributed along Thailand's southern coastlines, has been discovered to be edible. Sulfated polysaccharides from G. fisheri were extracted in low-temperature (25 °C) water. Seaweed polysaccharides (SPs) have been shown to have various advantageous biological effects. This study aims to investigate total phenolic content and antioxidant capacity of G. fisheri extract. The total phenolic content of G. fisheri extract was determined using Folin-Cioucalteu method and calculated as gallic acid equivalents (GAE). The antioxidant activity of G. fisheri extract was performed via 2, 2-diphenyl-1- picrylhydrazyl (DPPH) free radical scavenging assay and 2,2'-azino-bis(3-ethylbenzothiazoline-6-sulfonic acid) (ABTS) radical scavenging capacity assays. The findings exhibited a strong correlation between antioxidant activity and the total phenol contents. In addition, DPPH and ABTS assays showed that G. fisheri extract showed antioxidant activities as a concentration-dependent manner. The IC50 values of G. fisheri extract were 902.19 µg/mL ± 0.785 and 727.98 µg/mL ± 0.822 for DPPH and ABTS, respectively. Vitamin C was used as a positive control in DPPH assay, while Trolox was used as a positive control in ABTS assay. To conclude, G. fisheri extract consists of a high amount of total phenolic content, which exhibit a significant antioxidant activity. However, further investigation regarding antioxidant activity should be performed in order to identify the mechanism of Gracilaria fisheri action.

Keywords : ABTS assay, DPPH assay, sulfated polysaccharides, total phenolic content
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