

# Anti-oxidant activity of methanol extracts from Indonesian seaweeds in an oil emulsion model

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## Abstract:

Methanol extracts from seven species of Indonesian seaweeds were evaluated for their anti-oxidant activities in a fish oil emulsion system. The system was incubated at 50°C for 3 and 24 h, in the presence of ferrous ion as a catalyst. Peroxide value (POV), ferrous ion chelating effect in the oil emulsion system and ferrous ion binding effect in methanol extracts were determined as oxidation markers. In the presence of ferrous ion catalyst, all of the methanol extracts from seaweeds showed significantly lower POV of the emulsion than the control, and the extract from *Caulerpa sertularoides* had the strongest anti-oxidant activity. The highest chelation on ferrous ion was also found in the extract from *C. sertularoides* and it was significantly different compared to the other methanol extracts both in 3 and 24 h incubation. Methanol extracts from seaweeds had excellent ferrous ion binding effect; however, their ability decreased in the fish oil emulsion system.

Keywords : anti-oxidant • chelating effect • Fe<sup>2+</sup> • methanol extract • oxidation • peroxide value • seaweed