

Literature Review: Microalgae as Functional Foods with Solvent Free Extraction

Authors : Angela Justina Kumalaputri

Abstract : Indonesia, as a maritime country, has abundant marine living resources yet has not been optimally utilized. So far, we only focusing on fisheries. In the other hand, Indonesia, as the country with the fourth longest coastline, is a very good cultivation place for microalgae. Microalgae can be diversified to many important products, such as food, fuel, pharmaceutical products, functional food, and cosmetics. This research is focusing on the literature study about types of microalgae as sources for functional foods (such as antioxidants), including the contents and the separation methods. The research methods which we use are: (1) Literature study about various microalgae (2) Literature study about extractions using supercritical fluid of CO₂, which are free from toxic organic solvents, environmentally friendly, and safe for food products. Supercritical fluid extraction using CO₂ (low critical points: temperature at 31.1 oC and pressure at 72.9 bars) could be done at a low temperature which are suitable for temperature labile compounds, low energy, and faster extraction time compared with conventional method of extraction.

Keywords : antioxidants, supercritical fluid extraction, solvent-free extraction, microalgae

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