

Two-dimensional gel electrophoresis analysis of brown algal protein extracts

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Abstract

High-quality protein extracts are required for proteomic studies, a field that is poorly developed for marine macroalgae. A reliable phenol extraction protocol using *Scytosiphon gracilis* Kogame and *Ectocarpus siliculosus* (Dillwyn) Lyngb. (Phaeophyceae) as algal models resulted in high-quality protein extracts. The performance of the new protocol was tested against four methods available for vascular plants and a seaweed. The protocol, which includes an initial step to remove salts from the algal tissues, allowed the use of highly resolving two-dimensional gel electrophoresis (2-DE) protein analyses, providing the opportunity to unravel potentially novel physiological processes unique to this group of marine organisms.