



INFORMATION AND SOLUTIONS FOR OPTIMAL HEALTH

LOCAL AND CHEMICAL DISTRIBUTION OF PHLOROTANNINS IN BROWN ALGAE

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Constituents of Ecklonia Bicyclis

ABSTRACT:

The local and chemical distribution of phlorotannins among the Japanese Laminariaceae, *Eisenia bicyclis*, *Ecklonia cava* and *Ecklonia kurome*, was investigated. As a result of light microscopy observations with vanillin-HCl staining, phlorotannins were found to be accumulated within the vegetative cells of the outer cortical layer of the thalli, regardless of the species, stage of growth or organ. Crude phlorotannins comprised about 3.0% of the algal powder for each of the algae. High-performance liquid chromatography (HPLC) showed that the phlorotannins of *E. bicyclis* were composed of phloroglucinol (0.9%), phloroglucinol tetramer (4.4%), eckol (7.5%), phlorofucofuroeckol A (21.9%), dieckol (23.4%), and 8,8''-bieckol (24.6%), plus some other unknown phenolic compounds (17.3%). The composition of the phlorotannins differed little among the Laminariaceae, except for a significantly larger amount of the tetramer, MW 478, in *E. bicyclis*

