

Discrimination of three highly toxic *Alexandrium tamarensis* (Dinophyceae) isolates using FITC-conjugated lectin probes

조은섭 · 조용철 · 김태진* · 김학균

국립수산진흥원 적조연구과, *위생가공연구소

Lectin binding assay was conducted on 3 *A. tamarensis* isolates (AT-A, AT-2 and AT-6). Fatty acid composition of all 3 isolates was analyzed, and total carotenoid content and β -carotene were also determined. AT-A and AT-2 treated with different lectins in this study showed the positive response, whereas potentially toxic AT-6 did not bind DBA lectin, regardless of different growth phase, but conjugated ConA, PNA, RCA, SBA, UEA and WGA. It is possible that DBA is a desirable method for rapid and easy discrimination of highly toxic *A. tamarensis*. AT-A, AT-2 and AT-6 comprised saturated fatty acids (49.0-61.9%), monounsaturated fatty acids (8.0-20.5%) and polyunsaturated fatty acids (23.2-30.5%). In particular, 22:6 (n-3) polyunsaturated fatty acid in AT-6 had a high abundance, compared with AT-A and AT-2. However, carotenoid content and β -carotene were not contributed to discriminate each isolate. Due to variability in biochemical composition at different isolates, possibly DBA and 22:6 (n-3) polyunsaturated fatty acid provide a good information for discrimination of AT-6.