

## ***In vitro* Antigenotoxicity of *Ulva rigida* C. Agardh (Chlorophyceae) Extract against Induction of Chromosome Aberration, Sister Chromatid Exchange and Micronuclei by Mutagenic Agent MMC<sup>1</sup>**

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**Objective** To determine the *in vitro* possible clastogenic and cytotoxic activities of *Ulva rigida* crude extracts (URE), and identify their antigenotoxic and protective effects on chemotherapeutic agent mitomycin-C (MMC). **Methods** Anti-clastogenic and anti-genotoxic activities of *Ulva rigida* crude extracts (URE) were studied using chromosome aberration (CA), sister chromatid exchange (SCE), and micronuclei (MN) tests in human lymphocytes cultured *in vitro*. **Results** The chromosome aberration, sister chromatid exchange or micronuclei tests showed that URE at concentrations of 10, 20, and 40 µg/mL had no clastogenic activity in human lymphocyte cell culture. Three doses of URE significantly decreased the number of chromosomal aberrations and the frequencies of SCE and MN when compared with the culture treated with MMC ( $P < 0.0001$ ). **Conclusion** Although URE itself is not a clastogenic or cytotoxic substance, it possesses strong antigenotoxic, anti-clastogenic, and protective effects on MMC *in vitro*.

**Key words:** *Ulva rigida*; Anticlastogenicity; Antigenotoxicity; Chromosomal aberration; Sister chromatid exchange; Micronuclei; Mitomycin-C

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