

**THE EFFECT OF *Laurencia Obtusa* (Hudson) J.V.Lamouroux ON THE  
COMPOSITION OF FATTY ACIDS AND PROTEINS IN  
*Saccharomyces cerevisiae* EXPOSED TO OXIDATIVE STRESS**

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**Objective:** The marine environment is an untapped source of bioactive compounds. Marine macroalgae are rich polysaccharides (such as fucoidan, laminarin, alginate) that could potentially be exposed as prebiotic functional ingredients for both human and animal health applications. This study was aimed to find out some evidences the effect of *Laurencia obtusa* on the composition of fatty acids and proteins of *saccharomyces Cerevisiae* yeast cells in oxidative stress conditions. Biological effects of this seaweed on toluen and CCl<sub>4</sub> against toxicity in yeast cells were investigated.

**Method:** *Laurencia obtusais* collected from several rocky shores by hand in spring 2012 from Antalya (Turkey). Fatty acid composition was analyzed by gas chromatography. Vitamin and sterol content were analyzed by HPLC. Protein content was determined with the Lowry method.

**Results and Discussion:** The fatty acids, vitamins and protein content of the probiotic yeast extracts used to was prepared with as food is consumed *L.obtusa* was determined and compared. According to experimental results, the total fatty acid, vitamin and protein contents of the seaweed was observed to be the highest levels. The total fatty acid levels of probiotic yeast extracts treated with the seaweed was the highest. In the test results of in vitro, when toluen was added to the standard *S. cerevisiae* culture, the decrease in palmitic (16:0), stearic (18:0), palmitoleic (16:1, n-7) were observed while oleic (18:1, n-9) acids increased. Compared to control group, in the cultures where seaweed has been used, these fatty acids, linoleic (18:2, n-6) and oleik (18:1, n-9) acid and unsaturated fatty acid levels are observed to be higher (p<0.001). When CCl<sub>4</sub>, toluen seaweed extract added to *S. cerevisiae* culture, it is seen that there is a decrease in the levels of some fatty acids and an increase in the levels of ergosterol and vitamin K (p<0.001). In the cultures where seaweed has been used, There is an increase observed in protein content rate.

As a result, the some fiberious algae have positive effects on the probiotic yeasts growth which used beneficial in terms of health, the probiotic yeasts in the extracts of developing obtained from *L. obtusawas* determined which effected to the bioactive compounds

**Keywords:** Edible seaweed, Fatty acids, probiotic Yeast, Fiber, Prebiotic, CCl<sub>4</sub>, toluen