

## **Decontamination of *Chlorella* sp. culture using antibiotics and antifungal cocktail treatment**

### **ABSTRACT**

Direct sampling of microalgae from nature inevitably brings together the problem of massive growth of bacteria and fungi. In this study, bacterial and fungal contamination level was evaluated from the *Chlorella* sp. isolated from two different locations of local freshwater area. Attempts to obtain axenic *Chlorella* sp. culture by combinations of antibiotic and antifungal at different range of concentration treatment were investigated. It is evident that there were three different bacteria and two different fungi present in the culture, but apparently sterility can be achieved when ampicillin, cefotaxime and carbendazim cocktail were employed at concentrations of 700 µg/mL, 200 µg/mL and 0.1µg/mL, respectively. These concentrations are also proven harmless toward *Chlorella* sp. as higher concentrations inhibit the growth of microalgae. It was found that by streaking the contaminated microalgae twice onto the TAP agar containing the previously described cocktail, completely removed the contaminating fungi and bacteria from the culture. In conclusion, this study suggested that axenic *Chlorella* sp. can be attained with this method and cocktail recipe.

**Keyword:** Microalgae; *Chlorella* sp.; bacterial contamination; Fungal contamination; Ampicillin; Cefotaxime; Carbendazim; Cocktail