Abstract

The search for carotenoids in nature has been extensively studied because of their applications in foods. One treasure of the biopigment source is symbiotic-microorganisms with marine biota. The advantages of symbiont bacteria are easy to culture and sensitize pigments. The use of symbiont bacteria helps to conserve fish, coral reefs, seagrass, and seaweed. Therefore, the bacteria keeps their existence in their ecosystems. In this study, bacterial symbionts were successfully isolated from brown algae Padina sp. The bacterial symbionts had yellow pigment associated with carotenoids. The pigments were characterized using High Performance Liquid Chromatography (HPLC) with a Photo Diode Array (PDA) detector. The carotenoid pigments in the bacterial symbionts were identified as dinoxanthin, lutein and neoxanthin. Molecular identification by using a 16S rRNA gene sequence method, reveals that the bacterial symbionts were closely related to Bacillus marisflavi with a homology of 99%.

Keywords: carotenoid pigments, brown algae, Padina, bacterial symbionts, 16S rRNA.
Abstrak


Kata kunci: pigmen karotenoid, alga coklat, Padina, bakteri simbion, 16S rRNA.