Assay for antioxidant activity of algal, yeast and fungal culture extracts

Abstract

We had conducted study to discover whether or not there was any antioxidant compound in extracts of algal (Scenedesmus dimorphus and Spirulina fusiformis) and yeast (Phaffia rhodozyma) or fungus (Monascus purpureus). The purpose of this study was to determine activity of respective culture extracts as sources of natural antioxidant through their inhibition activities on bleaching of β-carotene against free radicals derived from oxidation of linoleic acid. Analysis of chemical constituents of the respective cultures was performed using GC-MS and the results showed that extract of S. dimorphus and S. fusiformis contained terpenoids (phytol), and benzofuranon that might be potential as antioxidant compound. The assay for antioxidant activity indicated that extracts of algal, yeasts and fungal cultures demonstrated considerably high activity to retain the bleaching of β-carotene, however, they were lower than that of exhibited by butylated hydroxy toluene (BHT) as positive control for a synthetic antioxidant.