Chemical Composition and Antioxidant Activities of Catfish Epidermal Mucus

ABSTRACT

The antioxidant activity of Clarias gariepinus and Clarias sp.1 epidermal mucus were determined. Aqueous extracts of C.sp1 contained relatively higher levels of protein concentration [602.04mg g-1 fresh weight] than other extracts while the organic extracts (aqueous phase) of C.sp1 gave higher levels of protein concentration (43.50mg g-1 fresh weight) than dichloromethane phase for both species. The chemical composition analysis revealed the values of moisture, ash, crude protein, fat and carbohydrate contents present in both species. The DPPH scavenging effect of all extracts and standards on the DPPH radical decreased in order of: ascorbic acid > BHT > dichoromethane phase extract of C. gariepinus > aqueous phase of C. gariepinus > acidic extract of C.sp1 > acidic extract of C. gariepinus > dichloromethane phase extract of C.sp1 > aqueous phase extract of C.sp1 > aqueous extract of C. gariepinus > aqueous extract of C.sp1 at the concentration of 100ug/ml, respectively. Reducing power activities in all extracts increased with increasing concentration except for acidic extract of C. gariepinus which decreased at concentration of 100ug/ml. The Ferric Reducing Antioxidant Power (FRAP) also increased as the concentration increased for all extracts. However, all extracts showed lower scavenging activity, reducing power and FRAP activities than BHT and ascorbic acid at the same concentrations. This preliminary information suggest that mucus from these fish species may be a source of novel antioxidant agents for fish and human health related applicants.