

## **EDIBLE seaweeds: A functional food with organ protective and other therapeutic applications**

### **Abstract**

The in vitro and in vivo antioxidant properties, total phenolic and chemical composition of various seaweeds is compiled. Seaweeds medicinal uses include for cardiovascular disease prevention, cholesterol-lowering, anti-diabetes, anti-coagulative, anti-inflammatory, immunomodulating and anti-cancer effects. The nutrients composition, vitamin C, tocopherol, dietary fibers, minerals, fatty acid and amino acid profiles of some tropical seaweeds is presented. Effects of tropical seaweeds in preventing cardiovascular diseases and cancer in animals via assessing the plasma and organs biomarkers will be given as example. Such biomarkers include activities of antioxidant enzymes such as superoxide dismutase (SOD), glutathione peroxidase (GSH-Px) and catalase (CAT); alanine aminotransferase (ALT), aspartate aminotransferase (AST), gama glutamyltransferase (GGT), creatinine kinase (CK), CK-MB isoenzyme, urea, creatinine and uric acid. Positive changes caused by dietary seaweeds on somatic index and histological changes in the liver, heart, kidney, brain, spleen and eye of the experimental animals are shown. The comparative in vivo cardiovascular protective effects of red and green tropical seaweeds in mammals fed on a rich lipogenic or sometimes called Western diet (24% fat and 1% cholesterol) are elaborated as a case. The potential anti-infective, antiviral and tissue healing properties of seaweeds are also incorporated.