INTRODUCTION

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Seaweeds are marine benthic algae, including 2.540 taxa of Rhodophyta, 997 of Phaeophyta and 900 of Chlorophyta (**Van den Hoek. 1995; Dawes, 1998),** althaugh more than 150.000 macro algae or seaweed species are found in the oceans of the globe but only a few of them were identified (**Harvey, 1988**).

They are macroscopic, varying in length from a few millimeters to what is known as giant alga, which may attain a length of 65m with a wet weight of 80-90kg (**Perez *et al.*, 1997**) the majority dominates the coral reefs and rocks grows attached by holdfasts in the intertidal and subtidal coastal waters. Seaweeds are distributed in both tropical and temperature regions, but attain their greatest large size in the cold water of oceans in the northern latitudes (**Little and Kitching, 1996; Lobban and Harrison 1994**).

The most successful seaweed cultivation industries are in Japan, China and southeast Asia, where there is a very high demand for seaweed products and burgeoning populations to create market growth. Most cultivated seaweeds are grown for the food market (**Guiry and Bluden, 1991; Ohno and Crtchely, 1993**).

They providing proteins, vitamin and minerals (**Abbott, 1996; and Ermakova, *et al.*, 2001**). Several excellent cookery books are available in English (**Madlener, 1977**), and French **(Biosvert, 1984, 1988)**. Almost 94% of edible seaweeds are produced by Mariculture rather than harvesting of wild stock and prices vary from U.S $7.500 to $10.000 a dry metric ton (**Ohns and Critchley, 1993**). Marine algae are not only the primary and major producers of organic matter in the sea but they also exert profound effects on the density and distribution of other inhibition of the marine environment . (**Elena *et al.*, 2001 and Kim *et al.*, 1997**).

The host organisms biosynthesize these compounds as non-primary or secondary metabolites to protect themselves and to maintain homeostasis in their environment (**Okai *et al.*, 1997**). Those compounds already isolated from seaweed are providing valuable ideas for the development of new drugs against cancer, microbial infections and inflammations (**Premila *et al.*, 1996**).

Special attention has been reported for antiviral, antibacterial and/or antifungal activities related to marine algae against several pathogens (**Ballesteros *et al.*, 1992 and Siddhanta *et al.*, 1997**).

Phycocolloids such as agar, carrageenan and alginate are commercially very important. About 900.000 wet metric tons $year^{-1}$ of seaweeds are harvested for extraction of Phycocolloids (**Luning, 1990; Cosson *et al.*, 1995**). These are widely used in microbiology, in industrial products ranging from salad dressings to paper manufacture, and pharmaceutical products ranging from tooth pastes to anticancer medicines (**Lewis *et al.*, 1988; Craigie, 1990, Yan, *et al.*, 1999; El-Manawy *et al* ., 2000, Hagurag 2000; Wong *et al.*, 2000**). Secondary or primary metabolites from these organisms may be potential bioactive compound of interest for the pharmacological industry (**Attawey and Zaborsky ., 1993**).

Seaweeds are also used as animal fodder and fertilizer (**Round, 1981; Bird, 1987; Neushul, 1987; El-Sheekh and El- Saied, 2000**).

Marine algae have been used as food as well as in industry and medicine for various purposes; some substances extracted from marine algae have been shown to have many pharmacological activities. (**Ahmed *et al.*, 1992; Awad ., 1998; Saleh *et al.*, 1993**).

Ulva lactuca contains active polysaccharide and heterosaccharide, these compounds exhibited antiviral activity in vitro against a number of human and