Antimicrobial and antitumor activities of some marine seaweed extracts

Thesis
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By

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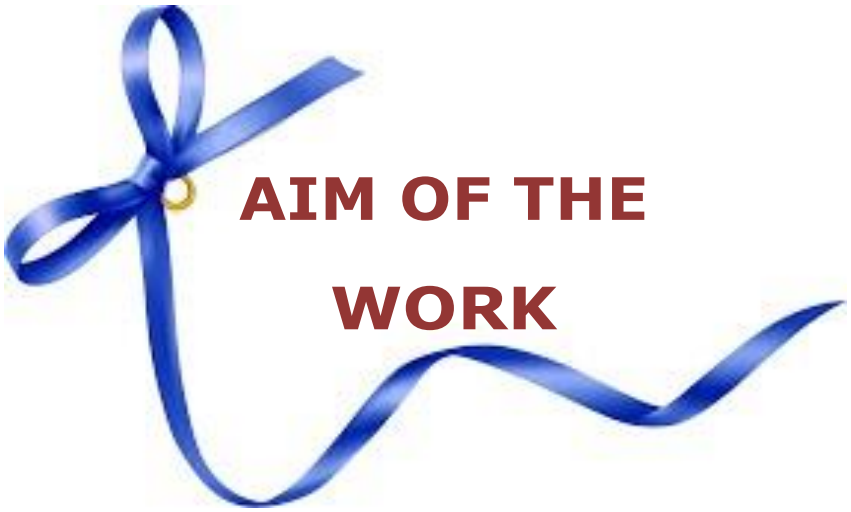
ABBREVIATIONS

ABPA	Allergic Broncho pulmonary Aspergillosis
CFU/ml	Colony forming unit/milliter
DMSO	dimethyl sulfoxide
E. coli	*Escherichia coli*
G	Gram
MS-GC	Gas chromatography mass spectrometry
GU	genitourinary
HIV	Human immunodeficiency virus
IR	red spectra The infra
Kb	Kilo base
MDR	Multi drug resistant bacteria
µg/ml	Microgram/milliter
µl	Microliter
MIC	Minimum Inhibitory Concentration
MRSA	*Staphylococcus aureus* Methicilin resistant
MS	Mass spectra
NB	Nutrient broth
P. aeruginosa	*Pseudomonas aeruginosa*
SD	Standard Deviation
SDA	Sabouraud's dextrose agar
U	Unit
UTI	Urinary tract infection
UV	Ultraviolet
WHO	World Health Organization
W/V	volume / Weight



AIM OF THE WORK

The aim of this research work is to evaluate the algal extracts as potential natural antimicrobial substances, to study the effects of such extracts as antioxidant and anticancer.

ABSTRACT

The present study evaluated ethanol, methanol, ethyl acetate, hexane, chloroform and acetone extracts of five green and red seaweed species from Abu-Qir bay, Alexandria, Egypt for their antimicrobial, antioxidant activities and cytotoxicity against four cell lines. Chloroform extracts of *Ulva lactuca* and *Ulva fasciata* exhibited the highest inhibition zones against the tested pathogenic bacteria (*Klebsiella pneumoniae and Proteus mirabilis*) and fungi (*Aspergillus flavus, Aspergillus fumingatus and Aspergillus niger*) as measured by disc diffusion method. The extracts of *U. lactuca and U. fasciata* showed the highest antioxidant activity (IC_{50} 6.32±0.29 mg/ml and 6.61±0.27 mg/ml, respectively), using DPPH (2, 2- diphenyl-1-picrylhydrazyl) scavenging method and total antioxidant capacity assay (2.13 and 1.51 mg ascorbic acid equivalent /gram dry weight, respectively).