



Isolation and Characterization of Novel Actinomycetes from Soil for the Production of Antimicrobial

Dinesh C.Sharma*, Neha Thripathee[@] and Jyotu Tyagi[§]

*Dep't of Zoology, K.M. Government Girls Post Graduate College, Badalpur, G.B. Nagar

[@]Dep't of Chemistry, K.M. Government Girls Post Graduate College, Badalpur, G.B. Nagar

[§]Dep't of Zoology, Govt. P. G. College, Noida, Gautam-Buddha Nagar Uttar-Pradesh, India

Article Information	Abstract
<p><i>Article history:</i> Received: 10-02-18 Revised: 20.02.2018 Accepted: 25.02.2018</p> <p><i>Keywords:</i> Actinomycetes, Antimicrobial substance.</p>	<p><i>In the present study, 25 isolates were isolated from the local soil samples and characterized as Actinomycetes, out of which one isolate (No.3) was found to be potent producer of antimicrobial substance that inhibited all the test organisms including gram positive bacteria, gram negative bacteria, yeast and fungi hence exposing its broad spectrum activity</i></p>

Introduction-

The quest for new and novel antibiotics had been always a keen interest for scientists. A number of antibiotics have been discovered to fulfill the needs. But with the continuation of antibiotics, the resistance to the drug is proliferating. Bacteria that have become resistance to one antibiotic also found to build resistance to others [1]. The strike back of pathogens has revitalized the search of new drugs. Novel antibiotics are required to counter various microorganisms. It is estimated that only 10% of the estimated total number of microbial species are known [2]. These microorganisms seem to be virtually an unlimited source of novel structure with variety of potential applications.

Actinomycetes are a diverse group of hydrophilic prokaryotes forming hyphae at some stage of their growth. Actinomycetes are very important for medical point of view being the producer of most of the antibiotics [3]. Nearly 11,900 antibiotics had been described by 1994 and estimated that about 50% are produced by *Streptomyces spp.* Also, Actinomycetes are the largest producer of secondary metabolites that help in maintaining defense mechanism, inhibiting other competing cells, functioning as germicide and showing anti bacterial, anti fungal or anti tumor activity.[4][5][6][7].

In view of the immense potential of Actinomycetes for novel antimicrobial drug, the present study was designed, in which we