



Streptomycetes: Characteristics and Their Antimicrobial Activities

Amin Hasani¹, Ashraf Kariminik^{2*}, Khosrow Issazadeh¹

¹Department of Microbiology, Lahijan Branch, Islamic Azad University, Lahijan, Iran

²Department of Microbiology, Kerman Branch, Islamic Azad University, Kerman, Iran

Abstract

The Streptomycetes are gram positive bacteria with a filamentous form that present in a wide variety of soil including composts, water and plants. The most characteristic of Streptomycetes is the ability to produce secondary metabolites such as antibiotics. They produce over two-thirds of the clinically useful antibiotics of natural origin (e.g., neomycin and chloramphenicol). Another characteristic of Streptomycetes is making of an extensive branching substrate and aerial mycelium. Carbon and nitrogen sources, oxygen, pH, temperature, ions and some precursors can affect production of antibiotics. This review also addresses the different methods to study the antimicrobial activity of *Streptomyces sp.* Because of increasing microbial resistance to general antibiotics and inability to control infectious disease has given an impetus for continuous search of novel antibiotics all the world.

Key words: Streptomyces, soil, PH, Antibiotics