Chapter 1

Introduction

In recent years, the field of antibiotics has undergone spectacular developments until the discovery of penicillin in 1929. After that Waksman and his associates reported the isolation of actinomycin in 1940, streptothricin in 1942, streptomycin in 1943 and neomycin in 1949. The discovery of streptomycin, which was found to be particularly useful in treating bacterial infection, especially tuberculosis, greatly stimulated the search for useful antibiotics among actinomycetes. The actinomycetes belonging to the genus *Streptomyces* have recently come to occupy an eminent place because many of them are important producers of antibiotics. This group of microorganisms is the source of many of the currently used antibiotics. Chloramphenicol, the first of the so-called broad spectrum antibiotics of commercial importance, was first isolated by Ehrlich in 1947. The following year, Dugger described aureomycin, an antibiotic obtained from cultures of *Streptomyces aureofaciens*. This event opened up the search and the discovery of the important class of antibiotics called the tetracyclines. Following these discoveries, the pace of new discoveries accelerated[1]. The potentiality of a particular antibiotic for important therapeutic usefulness in the treatment of one or more infectious diseases depends upon its action on the causative agents of the disease and its lack of toxicity of the affected animals. In Thailand, new antibiotics from the actinomycetes were researched from Thai soils. In 1979, Meevootisom and Nomi[2] isolated antibiotic producing

Streptomyces from soil in Thailand. Kulprecha and co-workers isolated a new species of *Streptomyces*, that was found to produce antifungal antibiotics in the culture filtrate and mycelium, from the soil of a rubber plantation in Thailand[3].

It was told that the rural people had treated the infection wound by using cave soil; According to this evidence, cave soil samples collected from central region of Thailand were studied. It may be possible, with anticipation, to find new antibiotics from the actinomycetes that could be solved the major problem of chemotherapy especially the prevalence of certain microbes resistant to specific antibiotics.