



## Description on Metabolites Produced by the Soil Fungi

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### DESCRIPTION

Most of the world's population depends on natural products for primary health care and medicine. Natural products from algae, bacteria, fungi and plants have been used as an important source of healing agents for over millions of years and many of the currently available drugs are derived from natural products or their derivatives. Natural products also persist to be the basic source for antibacterial drug invention. About 66% of the drugs presently accepted as antibacterial agents come from natural products. Cancer is one of the major causes of mortalities all over the world, characterized by the uncontrolled multiplication of cells within the human body. World Health Organization (WHO) reported that there were approximately 84 million deaths due to cancer. Genetic predisposition, incorrect diet and environment are the main reasons for the majority of cancers. Among this 95% of cancer, the incidence is caused by the life styles of humans.

The current estimate from the American Cancer Society and from the International Union against Cancer, 12 million cancer patients have been diagnosed with 7 million deaths worldwide and these numbers are expected to double by 2030. Despite modern improvements in survival rates, advances in early detection and the excellence of treatment, cancer remains a major health hazard in countries all over the world. Although the available anticancer drugs destroy cancer cells, it causes significant side effects to healthy cells and tissues. Thus, there is an urgent need for new anticancer drugs that are more effective and safe for healthy cells. In the future, more natural products and their derivatives are expected to play an important role in the development of new anticancer drugs.

Antibiotics save numerous patients lives and play a chief role during surgeries. The excessive use of antibiotics and drugs along with environmental factors has caused an increase in the Multiple Drug-Resistant strains (MDR) of bacteria, fungi and other microbes. In the wake of increased public health problems, World Health Organization (WHO) has declared Antimicrobial Resistance (AMR) to be one of the hazardous threats. To battle against microbes or infections, antibiotics are a blessing to human civilization that has saved millions of people from deaths. Numerous varieties of antibiotics have been used for remedial purposes overtime. In the middle of the 20th century, antibiotics were considered as "wonder drugs" that would bring infectious diseases. Alexander Fleming was the first to discover penicillin as a potent antibiotic against many bacterial infections.

### CONCLUSION

Antibiotics often act by inhibiting the synthesis of a bacterial cell, synthesis of proteins, Ribonucleic Acid (RNA), Deoxyribonucleic Acid (DNA), by a membrane disorganizing representative, or other specific actions. Antimicrobial Resistance (AMR) occurs when bacteria, fungi and viruses become resistant to antimicrobial drugs that are used for treating the infections they cause. Every time an antimicrobial medicine is used to cure disease, it decreases the effectiveness, because over usage increases the possibility for the bacteria to become resistant. Natural products have complex structures with a unique mode of action. But in synthetic chemistry, all-natural products and their derivatives cannot be synthesized because these molecules possess complicate structures and expensive to synthesize at an industrial scale and hence such compounds can only be obtained from natural sources.

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