

Use of microbes for production of antimicrobials essay example

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Microbes are small living things that cannot be visualized by the naked eye and can cause diseases. To the first approximation life is a microbial.

Microbes colonize every environment on earth and they play a key role in the biosphere. Pathogenic microbes are among the major cause of infections and death. To curb this scientists have come up with different ways to combat the infections that ultimately lead to death. The findings of the researches led to the invention of antimicrobial therapy which is the use of microbes to fight microbial infections(Stanier, 1988).

In the ancient era of antimicrobial therapy the ancient Indians of Central America, Egyptians and Chinese used molds to treat infected wounds. In the late 1800s, the germ theory of disease, which interrelated microbes to the cause of an array of ailments led to the intensive research of a drug that would halt the disease- causing microbes(Stanier, 1988). In 1871 Joseph Lister found that mold contaminated urine inhibited bacteria growth. In the 1890s Rudolf Emmerich and Oscar Low made pyocyanase which was effective from microbes.

In 1929 Fleming discovered a mold *Penicillium notatum*, which destroyed *Staphylococcus aureus*, which marked the beginning of the modern era of antimicrobial chemotherapy. In 1935 Gerhard Domagk discovered the first sulfa drug, Prontosil, which was also the first commercially available antibacterial antibiotic(Stanier, 1988).

The use of antimicrobial therapy has been a great success in preventing and stopping infectious diseases. It is divided into two groups: Antibiotics which are natural substances produced by a certain group of microorganisms and chemotherapeutic which are chemically synthesized. An antibiotic is a

selective poison it only works against the desired bacteria and leave the body cells intact (Stanier, 1988). Antibiotics have two effects on the microbes: bactericidal which is killing the microbe and bacteriostatic which stops growth of the microbe.

Large scale production of antimicrobials is done through fermentation. Most of the natural antibiotics are produced by three microbes, including eukaryotic molds and two types of spore-forming bacteria (Stanier, 1988). Research on the mechanism of the antimicrobials has to be intensive and continuous since antimicrobial resistances keep emerging.

In conclusion, this method is effective and has proved cheap too.

Stanier R, (1988) General Microbiology. London: Macmillan Publishers