



2017 NOBCCChE National Science Fair Abstract

Category: **Biological Science**

Title: **Comparison Study of Antibiotics and Bacteriophage on E. coli**

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Bacteriophage are viruses that target and kill bacteria as their hosts. The purpose of this experiment is to test the effectiveness of bacteriophage on killing E. coli and compare the efficiency of bacteriophage and antibiotics on killing E. coli. This experiment consisted of a turbidity test and zone of inhibition test. For the turbidity test, the nutrient broth and the E. coli were pipetted into each of the test tubes. Each agent was added to their assigned test tubes and the tubes are incubated for two days. After incubation, the absorbance of each test tube were measured using a spectrophotometer and the absorbance values were compared. For the zone of inhibition test, bacteria were added to each of the agar plates and the bacteria were spread on the agar using a bacti-spreader. The sensi-disks were put into each of their assigned sections using sterile forceps and the plates were incubated for two days. After incubation, the zones' diameters were measured using a ruler and the diameters were compared. The results of the experiment showed that the bacteriophage is not effective in killing bacteria. It also showed that antibiotics are more effective in killing bacteria than bacteriophage. These results reject the overall hypothesis that the bacteriophage would kill more bacteria than the antibiotics. The data from this experiment can be used to see how bacteriophage can be used as an alternative method to combat bacterial infections.