Turning the Phage: Effects of Bacteriophages on E. coli K12

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An estimated 1 in 8 worldwide deaths each year occur from bacterial infections, and the threat of bacterial infections is only increasing. The overuse of antibiotics against bacterial infections is leading to a global health crisis, where various bacterial strains are evolving to be resistant to the only certified cure, making them fatal. In the face of bacterial infections which are resistant to antibiotics, a clear solution is bacteriophages- viruses which naturally exist and evolve to target and kill specific bacterial strains. This project aims to test Coliphage T4R on strains of E. coli K12 (which models the pathogenic strain, O157;H7) in two ways: First, exposing the bacterial colonies at 100 ml dilutions of 10^-7 to the phages in 2 forms: first, in a cetomacrogol phage concentrated cream, and in a bacteriophage solution. The bacterial population exposed to the phages in comparison to the control suggests that the phages are effective.

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