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Isolation and Characterization of novel *B. subtilis* bacteriophages

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Isolation and Characterization of novel *B. subtilis* bacteriophages

Johnson Phung and Rebecca Adams, PhD

Abstract:

Bacteriophages are viruses that infect bacteria cells. Bacteria, being the most abundant form of life on the planet, have an estimated ten to a hundred different types of bacteriophages that infect each species. Bacteriophages are everywhere on Earth, but the number of phages that have been identified is only a fraction of what are thought to exist. This project focuses on isolating and identifying phages that infect the bacterium *Bacillus subtilis*. *B. subtilis* is a decomposition microbe commonly found in the soil. Our first goal was to determine whether the 3 samples of *Bacillus subtilis* phages that were previously obtained were unique or clones. This was determined by isolating each phage's DNA and utilizing molecular techniques to analyze the sequence. The second goal of this project was to attempt to isolate new *Bacillus subtilis* phages from various soil samples. These experiments are currently ongoing and will be reported on.

Key Words:

Bacteriophage, *Bacillus subtilis*, DNA extraction, phage isolation, plaque assay