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2025 SEA Symposium Abstract

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Isolation, Purification, and Characterization of Phage AuntGwenStacy

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Bacteriophages, or phages, are viruses that specifically infect bacterial hosts, playing a crucial role in microbial ecology and therapeutic applications. This study focuses on the isolation, purification, and characterization of the bacteriophage AuntGwenStacy, obtained from a soil sample in Maxwell, Texas. The isolation process involved serial dilutions and plaque assays to obtain a purified phage population. High-titer lysate was analyzed via transmission electron microscopy (TEM), revealing phage dimensions of 41.66 nm by 391.63 nm. Genetic characterization was performed using restriction enzyme digestion and agarose gel electrophoresis, providing insights into the phage’s genomic fingerprint. The study highlights the significance of phage research in biotechnology, medicine, and phage-based therapies. Future work includes archiving AuntGwenStacy for long-term storage and genomic analysis at the University of Pittsburgh. This research contributes to the broader understanding of bacteriophage biology and its potential applications in combating bacterial infections and addressing antimicrobial resistance.