

# Discovery and Analysis of Microbacteriophage Squeegee

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The purpose of this project was to discover and analyze a new phage to continue to add to the scientific community's knowledge of bacteriophages. Using the bacterial host *Microbacterium foliorum*, the novel bacteriophage Squeegee was isolated from a soil sample in Bowling Green, Kentucky. The phage was extracted using an enrichment of the soil sample and host cells. When grown on an agar plate, it exhibited a turbid plaque which indicates a lysogenic life cycle. Transmission electron microscopy was utilized to visualize the morphological characteristics of the phage. An icosahedral head and a tail from the Siphoviridae family was observed. DNA was isolated from the sample, after which a restriction digest was performed. Gel electrophoresis was conducted on the digest to gain a general understanding of the genome. The picture revealed many restriction sites for the *HaeIII* enzyme. Further genome sequencing must be done to precisely characterize the genotype of Squeegee. Overall, these results most likely confirm that Squeegee is unlike any other bacteriophage.