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Discovery and Characterization of Microbacterium paraoxydansNWU1 bacteriophage Bacbegone

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Bacbegone is a siphoviridae morphotype bacteriophage that utilizes Microbacterium paraoxydansNWU1 as a host. The bacteriophage produces small, clear plaques with feathered borders and no evidence of a lysogenic cycle. Bacbegone was isolated from a soil sample taken from the ditch near the UCO Forensic Science Institute and was then purified and amplified in the M. paraoxydansNWU1 host. The bacteriophage was cataloged on phagesDB.org and the amplified high-titer lysate was used for multiple characterization experiments. The temperature stability assay showed that the highest PFU/mL was recorded when Bacbegone was incubated at 37 ℃, and that the PFU/mL began to decrease after 50 ℃. A restriction digest using EcoRI, HaeIII, HindIII, SacII, SalI, and NsPI enzymes found that Bacbegone’s genome has no restriction sites for all enzymes except HaeIII which shows a smear on the gel. A Transmission electron micrograph of Bacbegone was taken at Oklahoma Medical Research Facility and shows the siphoviridae morphology of Bacbegone, the diameter of the head being approximately 60 nm and the length of the tail is approximately 170 nm.