CONSIDER FOR TALK

8th Annual SEA-PHAGES Symposium Abstract

Howard University

Washington DC

Corresponding Faculty Member: Courtney Robinson (courtney.robinson@howard.edu)

Isolation and Identification of Brevibacillus brevis Bacteriophages at Howard University

India C Bradley, Leon T Funchess, Members of HU-PHAGES 2016 , Ashley N Queen, Nichelle N Jackson, L. Michelle Fernando, Aliza Ibad, Winston A Anderson, Adrian Allen, Ayele Gugssa, Leon A Dickson, Courtney J Robinson

**Introduction:** Bacteriophages are obligate, intracellular parasites that infect bacteria. Bacteriophages, or phages, are studied for a number of purposes in biology. For example, viral ecology, as well as epidemiology can be studied using phages. Additionally, phages can be used as tools in molecular biology and in the development of therapeutics. This study, performed by the 2015-2016 PHAGES course at Howard University, was done in order to investigate phage biodiversity. Our goal was to isolate and characterize phages of the host bacterium *Brevibacillus brevis* U102. **Methods:** Samples of soil were collected from various sites on the campus of Howard University and enriched for phages using a culture that was spiked with *B. brevis* U102. The phages were identified and purified using spot tests and streaking methods. Medium titer lysates (MTLs) were obtained in order to carry out empirical testing and generation of high titer lysates (HTLs). DNA was then extracted and purified. Restriction digests were done in order to cut DNA at specific sites with the goal of visualizing genomic diversity. **Conclusions/Future Plans:** More than 60 phages were isolated and purified from the soil samples. Several HTLs were generated and DNA was extracted from many of the samples. Moving forward, genome sequencing, electron microscopy and other experiments will allow us to determine the phages’ morphologies, how many unique phages we have isolated and their similarities to other phages discovered by other researchers.