CONSIDER FOR TALK

11th Annual SEA Symposium Abstract

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Indentification and Annotation of Gordonia Phage Avazak

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Antibiotic resistance in bacteria is a developing issue, that will continue to spread as bacteria adapt to current therapies. One possible solution to this issue is phage therapy. Phage therapy uses bacteriophages, viruses that only attack bacteria, to infect specific pathogenic bacteria. Recently, this has been used as a therapy of last resort. The demand for new phages and their classification has opened access to research and discovery for undergraduate students through the SEA-PHAGES program. Only a small percentage of estimated phages in our biosphere have been discovered and annotated. Researchers are striving to unearth more bacteriophages in order to understand their structure, function, ecology, and potential use in treating infections caused by antibiotic resistant bacteria. Through established protocols a phage, Avazak, was discovered, isolated, and its genome annotated. Avazak infects the bacterium *Gordonia rubripertincta*. *G. rubripertincta* is a soil bacterium of the phylum Actinobacteria and is gram-positive. Avazak is a cluster DJ phage which has 14 other known family members, who are Siphoviridae and have lytic life-cycles. Avazak forms small definite plaques and has 91 genes in its genome. Continued identification and characterization of novel bacteriophages will provide increased understanding of phages and may aid against antibiotic resistant bacteria.