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Illinois Wesleyan University

Bloomington IL

Corresponding Faculty Member: Dave Bollivar (dbolliva@iu.edu)

Pickles13: A Dill-Lightful Bacteriophage Discovery

Maggie Stucko, Garrit Stenerson, Michelle Lu, Anusha Bhojanam, David Bollivar, Richard Alvey

Bacteriophages are viruses that attack and infect bacteria and are among the most innumerable biological entities on planet Earth. Due to their abundance, there is significant interest in isolating, characterizing and sequencing new bacteriophages. Pickles13, a Microbacterium foliorum bacteriophage, was discovered in a soil sample from Downers Grove, Illinois in the fall of 2020. After it was isolated and its DNA was sequenced, the bacteriophage underwent a series of tests in order to learn more about its genetic data in relation to other previously-discovered bacteriophages. Pickles13 also underwent PCR testing to determine whether it was part of either clusters EA, EE and EB — it was determined that the bacteriophage was not part of any of those clusters. Lysogeny testing was also conducted; Pickles13 did not have any known lysogens. This bacteriophage was then sent to the University of Pittsburgh for genomic sequencing, where it was classified as part of the GA cluster, making it one of four bacteriophages in this group. In addition, Pickles13 was analyzed using the TEM analysis protocol, revealing it was a member of the Siphoviridae family. The genome of Pickles13 was annotated using PECAAN, a bioinformatics platform that uses a variety of databases to analyze gene sequences and compare them to other sequenced and annotated bacteriophage genes in order to determine gene function. This bacteriophage consists of 39,237 base pairs and 64 genes, 33 of which were assigned a function during annotation.