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Isolation of a bacteriophage specific for KN1 *Klebsiella pneumoniae* and characterization of its capsule depolymerase

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Klebsiella pneumoniae, an important human pathogen, causes hospital or community-acquired disease. Presently, ~80 capsular types have been defined in *Klebsiella* and several studies have documented the association of clinical settings and capsular types. In this current study, we have isolated a bacteriophage specific for infecting KN1, a capsular type which is reported to be one of the common types causing community-acquired pyogenic liver abscess. Phage genome sequences were resolved by high-throughput sequencing. The genome size was 40,236 bp in length and genes were further annotated with NCBI-protein blast. Putative capsule depolymerase encoding gene was identified and we further proved that this gene encodes a protein with the ability of digesting KN1 capsule. This KN1 specific capsule depolymerase is useful for *Klebsiella* capsular typing. Also, the emergence of drug resistance strain is a big problem for *Klebsiella* treatment. The phage and it depolymerase could be applied as therapeutic alternatives in the future.

Biography

Yi-Jiun Pan has her expertise in microbiology and molecular biology. Her research focused on genetics and pathogenesis of the infectious bacteria, *Klebsiella pneumoniae* and its interaction with the host cells.

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