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Immunity testing of mycobacteriophage TinyPebbles and other cluster A lysogens

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Cluster A10 mycobacteriphage TinyPebbles was isolated through enrichment using *Mycobacterium smegmatis* mc2155 as host, through the SEA-PHAGES program. Genome sequencing of TinyPebbles revealed a 50,900 bp genome with 87 putative protein coding genes and 3 putative tRNAs, while performing electron microscopy, TinyPebbles displayed siphovirus morphology. When plated on a lawn of *M. smegmatis*, TinyPebbles produced large turbid plaques, suggesting it is a temperate phage, typical of most cluster A phages. Indeed, genome annotation and analysis identified serine integrases, repressors, and stoperator sequences. Current research is identifying consensus stoperator sequences in TinyPebbles and other Cluster A phages isolated at our institution, including Margo, Idleandcovert, PetterN, and Severus. In addition, we are isolating lysogens infected with TinyPebbles, Margo, Idleandcovert, PetterN, and Severus for immunity testing. We also are completing dotplot analysis for this same group of phages to assist in our interpretation of our immunity testing.