

Supplementary Tables

Table S1. Sequencing details of *Mycobacterium abscessus* clinical isolates.

Table S2. Genomic differences in smooth and rough *Mycobacterium abscessus* clinical isolates.

Table S3. *M. abscessus* survival following phage challenge.

Table S4. Genomic differences in phage resistant mutants (RMs) of *Mycobacterium abscessus* clinical isolates.

Table S5. Prophages resident in *M. abscessus* genomes.

Table S6. Plasmids of *Mycobacterium abscessus* clinical isolates.

Table S7. Primers used to construct phage mutants.

Supplementary Figure Legends

Figure S1. Genome organization of phiGD20-1 (MabA1). The genome of phiGD20-1 is shown with predicted genes shown as boxes either above or below the genome indicating rightward- and leftward-transcription, respectively. Gene numbers are shown within each gene box. Family designations are shown above or below each gene with the numbers of family members in parentheses; genes are colored according to the family designations. White boxes represent 'orphams', genes with no close relatives in this dataset. Family assignments were determined using Phamerator and database Actino_prophage (version 5). Predicted gene functions are indicated.

Figure S2. Genome organization of phiGD22-1 (MabA1). See Figure S1 for details.

Figure S3. Genome organization of phiGD23-1 (MabA1). See Figure S1 for details.

Figure S4. Genome organization of phiGD21-1 (MabB). See Figure S1 for details.

Figure S5. Genome organization of phiGD34-2 (MabB). See Figure S1 for details.

Figure S6. Genome organization of phiGD89A-1 (MabB). See Figure S1 for details.

Figure S7. Genome organization of phiGD57-1 (MabC). See Figure S1 for details.

Figure S8. Genome organization of phiGD17-1 (MabD). See Figure S1 for details.

Figure S9. Genome organization of phiGD24-3 (MabJ). See Figure S1 for details.