CLAIM

1. An isolated bacteriophage having a genome which comprises the nucleic acid sequence of SEQ ID NO:1, ~~SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:560, SEQ ID NO:781, or SEQ ID NO: 1074~~.

2. A pharmaceutical composition comprising the bacteriophage of claim 1 and a pharmaceutically acceptable carrier.

3. The pharmaceutical composition of claim 2, ~~comprising at least one of:~~

~~(i) a bacteriophage having a genome which comprises the nucleic acid sequence of SEQ ID NO:1 or SEQ ID NO:781,~~ further comprising one or more additional strains of bacteriophage effective against *Klebsiella pneumoniae* and/or one or more additional strains of bacteriophage effective against bacteria other than *Klebsiella pneumonia*;

~~(ii) a bacteriophage having a genome which comprises the nucleic acid sequence of SEQ ID NO:2, further comprising one or more additional strains of bacteriophage effective against *Acinetobacter baumannii* and/ one or more additional strains of bacteriophage effective against bacteria other than *Acinetobacter baumannii*;~~

~~(iii) a bacteriophage having a genome which comprises the nucleic acid sequence of SEQ ID NO:3, further comprising one or more additional strains of bacteriophage effective against *Escherichia coli* and/or one or more additional strains of bacteriophage effective against bacteria other than *Escherichia coli*;~~

~~(iv) a bacteriophage having a genome which comprises the nucleic acid sequence of SEQ ID NO:4, further comprising one or more additional strains of bacteriophage effective against *Pseudomonas aeruginosa* and/or one or more additional strains of bacteriophage effective against bacteria other than *Pseudomonas aeruginosa*; and~~

~~(v) a bacteriophage having a genome which comprises the nucleic acid sequence of SEQ ID NO:560 or SEQ ID NO:1074, further comprising one or more additional strains of~~

~~bacteriophage effective against *Staphylococcus aureus* and/or one or more additional strains of bacteriophage effective against bacteria other than *Staphylococcus aureus*.~~

4. An isolated protein from bacteriophage ~~F387/08,~~ F391/08 having a genome comprising the nucleic acid sequence of SEQ ID NO:1, ~~F394/08, F488/08, F510/08, F44/10, or 125/10,~~ or a fragment~~, variant or derivative thereof~~ of said protein having antibacterial or antimicrobial activity against ~~one or more of~~ *Klebsiella pneumoniae*~~, *Acinetobacter baumannii*, *Escherichia coli*, *Pseudomonas aeruginosa*,~~ and ~~*Staphylococcus aureus*~~ ~~or having a biological activity associated with the bacteriophage from which it was isolated~~; wherein said protein is a lysin protein or a tail protein.

5. The isolated protein of claim 4, wherein said protein is a lysin protein having the amino acid sequence of SEQ ID NO: 20, SEQ ID NO: 80, ~~SEQ ID NO: 192, SEQ ID NO: 282, SEQ ID NO: 547, SEQ ID NO: 556, SEQ ID NO: 557, SEQ ID NO: 598, SEQ ID NO: 1216, SEQ ID NO: 1261~~ or a fragment~~, variant or derivative~~ thereof, which fragment~~, variant or derivative~~ has antibacterial or antimicrobial activity against *Klebsiella pneumoniae*, ~~*Acinetobacter baumannii*, *Escherichia coli*, *Pseudomonas aeruginosa*,~~ and/or ~~*Staphylococcus aureus*~~; or wherein said protein is a tail protein having the amino acid sequence of SEQ ID NO: 15, SEQ ID NO: 26, SEQ ID NO: 27, SEQ ID NO: 30, SEQ ID NOs: 32-35, ~~SEQ ID NO: 180, SEQ ID NO: 183, SEQ ID NO: 185, SEQ ID NO: 190, SEQ ID NO: 231, SEQ ID NO: 232, SEQ ID NO:235, SEQ ID NOs: 239-245, SEQ ID NO: 248, SEQ ID NO: 249, SEQ ID NO: 252, SEQ ID NO: 254, SEQ ID NOs: 433-437, SEQ ID NOs: 489-496, SEQ ID NO: 544, SEQ ID NO: 545, SEQ ID NO: 549, SEQ ID NO: 551, SEQ ID NO: 629, SEQ ID NO: 686, SEQ ID NO: 789, SEQ ID NOs: 796-800, SEQ ID NO: 806, SEQ ID NO: 854, SEQ ID NOs: 999-1004, SEQ ID NOs: 1053-1060, SEQ ID NO: 1077, SEQ ID NO: 1217, SEQ ID NO: 1250, or SEQ ID NO: 1266,~~ or a fragment~~, variant or derivative~~ thereof, which fragment~~, variant or derivative~~ has antibacterial or antimicrobial activity against *Klebsiella pneumoniae* ~~a biological activity associated with the bacteriophage from which it was isolated or derived~~.

6. An isolated first protein having at least 85% or at least 95% sequence identity to a second protein of the same size, wherein said first protein has antibacterial or antimicrobial activity against *Klebsiella pneumoniae*, ~~*Acinetobacter baumannii*, *Escherichia coli*, *Pseudomonas aeruginosa*,~~ and/or ~~*Staphylococcus aureus*~~ ~~or has a biological activity associated~~

~~with bacteriophage F387/08, F391/08, F394/08, F488/08, F510/085, F44/10, or F125/10~~ and said second protein has the amino acid sequence of SEQ ID NO: 20, SEQ ID NO: 80, ~~SEQ ID NO: 192, SEQ ID NO: 282, SEQ ID NO: 547, SEQ ID NO: 556, SEQ ID NO: 557, SEQ ID NO: 598, SEQ ID NO: 1216, SEQ ID NO: 1261,~~ or a fragment thereof, or the amino acid sequence of SEQ ID NO: 15, SEQ ID NO: 26, SEQ ID NO: 27, SEQ ID NO: 30, SEQ ID NOs: 32-35, ~~SEQ ID NO: 180, SEQ ID NO: 183, SEQ ID NO: 185, SEQ ID NO: 190, SEQ ID NO: 231, SEQ ID NO: 232, SEQ ID NO:235, SEQ ID NOs: 239-245, SEQ ID NO: 248, SEQ ID NO: 249, SEQ ID NO: 252, SEQ ID NO: 254, SEQ ID NOs: 433-437, SEQ ID NOs: 489-496, SEQ ID NO: 544, SEQ ID NO: 545, SEQ ID NO: 549, SEQ ID NO: 551, SEQ ID NO: 629, SEQ ID NO: 686, SEQ ID NO: 789, SEQ ID NOs: 796-800, SEQ ID NO: 806, SEQ ID NO: 854, SEQ ID NOs: 999-1004, SEQ ID NOs: 1053-1060, SEQ ID NO: 1077, SEQ ID NO: 1217, SEQ ID NO: 1250, or SEQ ID NO: 1266,~~ or a fragment thereof.

7. The fragment of claim 4, 5 or 6, wherein said fragment comprises a cysteine histidine-dependent amidohydrolases/peptidase domain (CHAP domain) having the amino acid sequence of SEQ ID NO: 20, or SEQ ID NO: 80, ~~SEQ ID NO: 192, SEQ ID NO: 282, SEQ ID NO: 547, SEQ ID NO: 556, SEQ ID NO: 557, or SEQ ID NO: 598~~.

8. A pharmaceutical composition comprising the isolated protein or fragment of any one of claims 4, 5 or 6, or the fragment of claim 7 and a pharmaceutically acceptable carrier.

9. The pharmaceutical composition of claim 8, comprising the ~~at least one of:~~

~~(i) an~~ isolated protein having the amino acid sequence of SEQ ID NO: 15, SEQ ID NO: 20, SEQ ID NO: 26, SEQ ID NO: 27, SEQ ID NO: 30, SEQ ID NO: 32-35, SEQ ID NO: 80, ~~SEQ ID NO: 789, SEQ ID NOs: 796-800, SEQ ID NO: 806, SEQ ID NO: 854, SEQ ID NOs: 999-1004, or SEQ ID NOs: 1053-1060,~~ or a fragment~~, variant or derivative~~ thereof having antibacterial or antimicrobial activity against *Klebsiella pneumoniae*~~, further comprising one or more bacteriophage or additional bacteriophage proteins effective against *Klebsiella pneumoniae* and/or effective against bacteria other than *Klebsiella pneumoniae*~~;

~~(ii) an isolated protein having the amino acid sequence of SEQ ID NO: 180, SEQ ID NO: 183, SEQ ID NO: 185, SEQ ID NO: 190, SEQ ID NO: 192, or a fragment, variant or~~

~~derivative thereof having antibacterial or antimicrobial activity against *Acinetobacter baumannii*, further comprising one or more bacteriophage or additional proteins effective against *Acinetobacter baumannii* and/or effective against bacteria other than *Acinetobacter baumannii*;~~

~~(iii) an isolated protein having the amino acid sequence of SEQ ID NO: 231, SEQ ID NO: 232, SEQ ID NO:235, SEQ ID NOs: 239-245, SEQ ID NO: 248, SEQ ID NO: 249, SEQ ID NO: 252, SEQ ID NO: 254, SEQ ID NO: 282, SEQ ID NOs: 433-437, SEQ ID NOs: 489-496, or a fragment, variant or derivative thereof having antibacterial or antimicrobial activity against *Eschiriehia coli*, further comprising one or more bacteriophage or additional proteins effective against *Escherichia coli* and/or effective against bacteria other than *Escherichia coli*;~~

~~(iv) an isolated protein having the amino acid sequence of SEQ ID NO: 544, SEQ ID NO: 545, SEQ ID NO; 547, SEQ ID NO: 549, SEQ ID NO: 551, SEQ ID NO: 556, SEQ ID NO: 557, or a fragment, variant or derivative thereof having antibacterial or antimicrobial activity against *Pseudomonas aeruginosa*, further comprising one or more bacteriophage or additional proteins effective against *Pseudomonas aeruginosa* and/or effective against bacteria other than *Pseudomonas aeruginosa*; and/or~~

~~(v) an isolated protein having the amino acid sequence of SEQ ID NO: 598, SEQ ID NO: 629, SEQ ID NO: 686, SEQ ID NO: 1077, SEQ ID NO: 1216, SEQ ID NO: 1217, SEQ ID NO: 1250, SEQ ID NO: 1261, SEQ ID NO: 1266, or a fragment, variant or derivative thereof having antibacterial or antimicrobial activity against *Staphylococcus aureus*, further comprising one or more bacteriophage or additional proteins effective against *Staphylococcus aureus* and/or effective against bacteria other than *Staphylococcus aureus*.~~

10. The pharmaceutical composition of claim 9, further comprising one or more bacteriophage or additional bacteriophage proteins effective against *Klebsiella pneumoniae* and/or effective against bacteria other than *Klebsiella pneumoniae.*

~~10~~11. ~~A~~ The pharmaceutical composition of claim 2, further comprising at least ~~four~~ three additional phage selected from the group consisting of ~~F391/08,~~ F394/08, having a genome comprising the nucleic acid sequence of SEQ ID NO:2; F488/08, having a genome comprising the nucleic acid sequence of SEQ ID NO:3; F510/08, having a genome comprising the nucleic acid sequence of SEQ ID NO:4; F44/10, having a genome comprising

the nucleic acid sequence of SEQ ID NO:560; F387/08, having a genome comprising the nucleic acid sequence of SEQ ID NO:781; F125/10, having a genome comprising the nucleic acid sequence of SEQ ID NO:1074; F170/08, having a genome comprising the nucleic acid sequence of SEQ ID NO:2 of WO 2010/090542; F168/08, having a genome comprising the nucleic acid sequence of SEQ ID NO:1 of WO 2010/090542; F770/05, having deposit number NCIMB 41864; and F1245/05, having deposit number NCIMB 41865; preferably at least ~~four~~ three additional phage selected from the group consisting of F44/10, ~~F391/08,~~ F387/08, F488/08, F510/08 and/or F770/05; preferably comprising F44/10; ~~and/or wherein said composition comprises F394/08 and/or F1245/05;~~ and/or wherein said composition is formulated for topical application.

~~11~~12. An isolated nucleic acid comprising a nucleotide sequence encoding the protein or fragment of claim 4, 5, or 6 or fragment of claim 7.

~~12~~13. Use of a therapeutically effective amount of the pharmaceutical composition of any of claims 2-3 or 8-~~10~~11 in the manufacture of a medicament for treating or preventing a bacterial infection in a subject in need thereof; wherein said bacterial infection is an infection by ~~one or more of~~ *Klebsiella pneumoniae*~~, *Acinetobacter baumannii*, *Escherichia coli*, *Pseudomonas aeruginosa*,~~ and ~~*Staphylococcus aureus*; or by a bacterium other than *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Escherichia coli*, *Pseudomonas aeruginosa*,~~ and ~~*Staphylococcus aureus*~~; ~~and/or~~

preferably wherein the infection is a nosocomial infection, an infection of the skin, a respiratory tract infection; and/or an infection associated with diabetic foot ulcer; and/or wherein the subject is a mammal, a human, and/or wherein the composition is administered topically.

~~13~~14. A method for diagnosing the causative agent of a bacterial infection comprising

(i) culturing a tissue sample from a patient;

(ii) contacting the culture of step (i) with the bacteriophage from claim 1, the protein or fragment of claim 4, 5, or 6, or the fragment of claim 7~~, or the nucleic acid of claim 11~~; and

(iii) monitoring for evidence of growth or lysis of the culture

wherein evidence of lysis of the culture indicates that the culture comprises *Klebsiella pneumoniae* ~~a species or strain of bacteria that is known to be susceptible to the bacteriophage or polypeptide used in step (ii)~~;

~~and/or~~ preferably wherein the tissue sample is a sample of blood, urine, tissue biopsy, sputum, nasal mucosa, or swab collected from said patient.

~~14~~15. A method for reducing or inhibiting ~~the~~ colonization or growth of *Klebsiella pneumoniae* bacteria on a solid surface comprising contacting said surface with ~~a~~ the bacteriophage of claim 1, the ~~or~~ polypeptide or fragment of claim 4, 5, or 6, or the fragment of claim 7~~, or the nucleic acid of claim 11~~; preferably wherein said surface is the surface of a hospital apparatus or a piece of hospital equipment, preferably a surgical apparatus or piece of surgical equipment.

~~15~~16. Use of the bacteriophage of claim 1, the polypeptide or fragment of claim 4, 5, or 6, or the fragment of claim 7~~, or the nucleic acid of claim 11~~ in the manufacture of a medicament for reducing or inhibiting ~~the~~ colonization or growth of *Klebsiella pneumoniae* bacteria on a ~~sufaee~~ biological surface contacted therewith; preferably wherein said surface is the skin or a mucus membrane of a mammal, ~~or~~ the skin or a mucus membrane of a human, or a mucus membrane of the respiratory tract of a mammal or human.