Claims

1. A dry powder composition comprising:a polymyxin antibiotic; and at least two further antibiotics selected from the group consisting of an aminoglycoside, an ansamycin, a carbacephem, a carbapenem, a cephalosporin, a glycopeptide, a lincosamide, a lipopeptide, a macrolide, a monobactam, a nitrofuran, a oxazolidonone, a penicillin, a polypeptide, a quinolone, a sulfonamide, a tetracycline, a chloramphenicol, a phosphonic acid antibiotic and a mycobacteria antibiotic.

2. The dry powder composition of claim 1, wherein the polymyxin is colistin; optionally wherein the at least two further antibiotics is selected from the group consisting of a carbapenem, an ansamycin and a tetracycline.

3. The dry powder composition of any one of claims 1 or 2, wherein the carbapenem is selected from the group consisting of ertapenem, doripenem, imipenem and meropenem; optionally wherein the carbapenem is meropenem; optionally wherein the ansamycin is rifampicin; optionally wherein the tetracycline is selected from the group consisting of demeclocycline, doxycycline, minocycline, oxytetracycline and tetracycline analogues; optionally wherein the tetracycline is tigecycline.

4. The dry powder composition of any one of claims 1 to 3, wherein the composition comprises colistin, tigecycline and rifampicin.

5. The dry powder composition of any one of claims 1 to 3, wherein the composition comprises colistin, meropenem and tigecycline.

6.The dry powder composition of any one of claims 1 to 3, wherein the composition comprises colistin, meropenem and rifampicin.

7. The dry powder composition according to claim 4, wherein the weight ratio of colistin, tigecycline and rifampicin is 5:4:12.

8. The dry powder composition according to claim 5, wherein the weight ratio of colistin, meropenem and tigecycline is 5:4:4.

9. The dry powder composition according to claim 6, wherein the weight ratio of colistin, meropenem and rifampicin is 5:4:12.

10. The dry powder composition of any one of claims 1-9, wherein the dry powder has a fine particle fraction of at least 50%.

11. The dry powder composition of claim 10, wherein the particle size is in the range of 1 to10 μm.

12. The dry powder composition of any one of claims 1-11, wherein the composition is formulated to be administered nasally, orally, transdermally, subcutaneously or intravenously; optionally wherein the composition is formulated to be administered by an inhaler, a syringe, an implantable device, a medically inserted device or a biomaterial.

13. The dry powder composition of any one of claims 1-12, wherein the composition comprises one or more components selected from the group consisting of excipients, antibiotics, a pharmaceutically acceptable carrier, a mucolytic agent, an anti-inflammatory agent, and pharmaceutically active ingredients.

14. The use of a dry powder composition of any one of claims 1-13 in the manufacture of a medicament for treating a subject infected, suspected to be infected, or at risk of infection, with a multidrug resistant bacterium.

15. The use of claim 14, wherein the bacterium is a Gram-negative bacteria; optionally wherein the Gram-negative bacteria is selected from the group consisting of, Enterobacteriaceae, Pseudomonas aeruginosa, Acinetobacter baumannii-calcoaceticus complex and Mycobacterium species.

16. The use of a dry powder composition of any one of claims 1-13 in the manufacture of a medicament for treating a respiratory system infection by a bacterium.

17. The use of claim 16, wherein the bacterium is a multidrug resistant bacterium; optionally wherein the multidrug resistant bacterium is selected from the group consisting of Pseudomonas aeruginosa, Acinetobacter baumannii, Klebsiella pneumonia and Escherichia coli.
18. The use of any one of claims 16 or 17, wherein the bacterial respiratory system infection is laryngitis, bronchitis, pneumonia, or sinusitis

19. The use of a dry powder composition of any one of claims 1-13 in the manufacture of a medicament for treating a pulmonary disease or condition.

20. The use of claim 19, wherein the pulmonary disease or condition is cystic fibrosis, bronchiectasis, or chronic obstructive pulmonary disease (COPD).