CLAIMS

1. A lyophilized daptomycin formulation comprising daptomycin and an additive selected from the group consisting of pharmaceutically acceptable organic acids and pharmaceutically acceptable salts thereof, acetyl glucosamine, and combinations thereof, wherein the pharmaceutically acceptable organic acids and pharmaceutically acceptable salts thereof, if present, have a concentration of from about 10 mM to about 500 mM in an aqueous solution prior to lyophilization.

2. The lyophilized daptomycin formulation of claim 1, wherein the formulation comprises from about 200 mg to about 600 mg of daptomycin.

3. The lyophilized daptomycin formulation of claim 1, wherein the acetyl glucosamine has a concentration of from about 0.01 mM to about 500 mM in an aqueous solution prior to lyophilization.

4. The lyophilized daptomycin formulation of any one of claims 1-3, wherein the pharmaceutically acceptable organic acid is selected from the group consisting of monocarboxylic organic acids, dicarboxylic organic acids, hydroxyl substituted dicarboxylic organic acids, tricarboxylic organic acids, hydroxyl substituted tricarboxylic organic acids, tetracarboxylic organic acids, and combinations thereof.

5. The lyophilized daptomycin formulation of claim 4, wherein the pharmaceutically acceptable organic acid is a hydroxyl substituted tricarboxylic organic acid.

6. The lyophilized daptomycin formulation of claim 5, wherein the hydroxyl substituted tricarboxylic organic acid is citric acid.

7. The lyophilized daptomycin formulation of any one of claims 1-3, wherein the pharmaceutically acceptable glucose derivative is acetyl glucosamine.

8. The lyophilized daptomycin formulation of any one of claims 1-7, wherein the formulation is reconstituted in a pharmaceutically acceptable diluent to obtain a reconstituted lyophilized daptomycin formulation.

9. The reconstituted lyophilized daptomycin formulation of claim 8, wherein the formulation is reconstituted in the pharmaceutically acceptable diluent in less than about 5 minutes.

10. The reconstituted lyophilized daptomycin formulation of claim 8, wherein the concentration of daptomycin therein is from about 20 mg/mL to about 100 mg/mL.

11. The reconstituted lyophilized daptomycin formulation of claim 8, wherein the concentration of the additive therein is from about 1 mM to about 500 mM.

12. The reconstituted lyophilized daptomycin formulation of claim 11, wherein the concentration of the additive therein is about 237.5 mM.

13. The reconstituted lyophilized daptomycin formulation of claim 8, wherein the concentration of daptomycin therein is from about 20 mg/mL to about 100 mg/mL.

14. The reconstituted lyophilized daptomycin formulation of claim 8, wherein the concentration of the additive therein is from about 1mg/mL to about 500 mg/mL.

15. The reconstituted lyophilized daptomycin formulation of claim 8, wherein the pH thereof is from about 4.0 to about 5.0.

16. The reconstituted lyophilized daptomycin formulation of claim 15, wherein the pH thereof is about 4.7.

17. The reconstituted lyophilized daptomycin formulation of claim 8, wherein the diluent is selected from the group consisting of sterile water for injection, bacteriostatic water for injection, 0.45% sodium chloride solution for injection, 0.9% sodium chloride solution for injection, Ringer's solution, lactated Ringer's solution, and combinations thereof.

18. The reconstituted lyophilized daptomycin formulation of claim 17, wherein the diluent is 0.9% sterile sodium chloride solution for injection.

19. The reconstituted lyophilized daptomycin formulation of claim 17, wherein the diluent is sterile water for injection.

20. The use of an effective amount of a lyophilized daptomycin formulation of any one of claims 1-19 in the manufacture of a medicament for the treatment of a bacterial infection.

21. A method of treating or preventing a biofilm, the method comprising exposing a surface of a device to a solution of an effective amount of a lyophilized daptomycin formulation of any one of claims 1-19.

22. A method for preparing a lyophilized daptomycin formulation, wherein the method comprises:

(a) forming an aqueous solution of daptomycin and an additive, which is selected from the group consisting of pharmaceutically acceptable organic acids and pharmaceutically acceptable salts thereof, acetyl glucosamine, and combinations thereof, wherein the pharmaceutically acceptable organic acids and pharmaceutically acceptable salts thereof, if present, have a concentration of from about 10 mM to about 500 mM in an aqueous solution prior to lyophilization;

(b) adjusting the pH to about 4.0 to about 5.0; and

(c) lyophilising the solution to obtain a lyophilisate.

23. A method for preparing a lyophilized daptomycin formulation, wherein the method comprises:

(a) forming an aqueous solution of daptomycin at a pH of 4.0 to 5.0;

(b) dissolving an additive selected from the group consisting of pharmaceutically acceptable organic acids and pharmaceutically acceptable salts thereof, and acetyl glucosamine in the aqueous solution of the daptomycin, wherein the pharmaceutically acceptable organic acids and pharmaceutically acceptable salts thereof, if present, have a concentration of from about 10 mM to about 500 mM in the aqueous solution;

(c) adjusting the pH to about 4.0 to about 5.0; and

(d) lyophilising the solution to obtain a powder.