CLAIMS

What is claimed is:

1. A solid oral dosage form comprising a dosage form core, wherein the dosage form core comprises:

tebipenem pivoxil HBr and excipients,

wherein the weight to weight ratio of tebipenem pivoxil (as a free base) to the excipients in the core is from 1:1.4 to 1.2:1,

and the excipients include a binder, a lubricant, and optionally a diluent.

2. The dosage form of claim 1, wherein the dosage form is an immediate release dosage form and releases more than 85 % of the tebipenem pivoxil HBr in 15 minutes when measured by the USP Paddle method at 50 rpm in 900 mL of 50 mM acetate buffer, pH 5.0 at 37 °C.

3. The immediate release dosage form of claim 2, wherein the excipients additionally comprise a disintegrant.

4. The immediate release dosage form of claim 3, wherein the disintegrant is croscarmellose sodium, crospovidone, sodium starch glycolate, or any combination of any two or more of the foregoing.

5. The dosage form of claim 1, wherein the dosage form is a modified release dosage form and provides an in vitro release of not more than (NMT) 50 % of the tebipenem pivoxil HBr after 30 minutes when measured by the USP Paddle method at 50 rpm in 900 mL of 50 mM acetate buffer, pH 5.0 at 37 °C and wherein the excipients additionally comprise a release control agent.

6. The modified release dosage form of claim 5, wherein not less than (NLT) 85% of the total amount of tebipenem pivoxil HBr is released after 4 hours, when measured by the USP Paddle method at 50 rpm in 900 mL of 50 mM acetate buffer, pH 5.0 at 37 °C.

7. The modified release dosage form claim 5, wherein not less than (NLT) 85% of the total amount of tebipenem pivoxil HBr is released after 2 hours, when measured by the USP Paddle method at 50 rpm in 900 mL of 50 mM acetate buffer, pH 5.0 at 37 °C.

8. The modified release dosage form of claim 5, wherein the release control agent is hydroxypropyl methylcellulose, hydroxypropyl cellulose, hypromellose acetate succinate, polyvinyl pyrrolidone, copovidone, or any combination of any two or more of the foregoing.

9. The dosage form of any one of claims 1 to 8, wherein

the binder is microcrystalline cellulose, silicified microcrystalline cellulose, ethyl cellulose, lactose, or any combination of any two or more of the foregoing.

10. The dosage form of claim 9, wherein the binder is microcrystalline cellulose.

11. The dosage form of any one of claims 1 to 10, wherein the dosage form comprises a diluent and the diluent is starch, sucrose, monohydrate lactose, mannitol, sorbitol, or any combination of any two or more of the foregoing.

12. The dosage form of any one of claims 1 to 11, wherein the dosage form comprises a lubricant and the lubricant is a fatty acid ester, stearic acid, magnesium stearate, glyceryl behenate, calcium stearate, sodium stearyl fumarate, sodium lauryl sulfate, magnesium lauryl sulfate, sodium benzoate, talc, hydrogenated oil, Carnauba wax, or any combination of any two or more of the foregoing.

13. The dosage form of claim 12, wherein the lubricant is magnesium stearate.

14. The immediate release dosage form of claim 4 or 13, wherein the disintegrant is crospovidone.

15. The immediate release dosage form of any one of claims 2 to 4 wherein the dosage form core does not include hydroxypropyl methylcellulose

16. The dosage form of any one of claim 1 to 15, wherein the dosage form core comprises 300, 500, 600, 900, or 1000 milligrams of tebipenem pivoxil.

17. The dosage form core of any one of claims 1 to 16, wherein the dosage form core is a tablet core.

18. The dosage form core of any one of claims 1 to 17, wherein the core further comprises a coating.

19. The use of an oral dosage form of any one of claims 1 to 18 in the manufacture of a medicament for treating or preventing a bacterial infection in a patient.

20. The use of claim 19, wherein the bacterial infection is a urinary tract infection, complicated urinary tract infection, or pyelonephritis.

21. The use of an oral dosage form of any one of claims 1 to 18 in the manufacture of a medicament for treating or preventing a *Mycobacterial tuberculosis* infection in a patient.

22. A tablet core comprising tebipenem pivoxil HBr and excipients, wherein tebipenem pivoxil (as a free base) comprises 54% to 75% by weight of the tablet core.

23. The tablet core of claim 22 comprising a binder and a disintegrant.

24. The tablet core of claim 23, wherein the tablet core additionally comprises a lubricant.

25. The tablet core of claim 24, wherein the lubricant is magnesium stearate.

26. The tablet core of claim 24, wherein the tablet core comprises 300 mg tebipenem pivoxil.

27. The tablet core of claim 23, wherein the binder is microcrystalline cellulose, silicified microcrystalline cellulose, ethyl cellulose, lactose, or any combination of any two or more of the foregoing.

28. The tablet core of claim 23, wherein the disintegrant is croscarmellose sodium, crospovidone, sodium starch glycolate, or any combination of any two or more of the foregoing.

29. The tablet core of claim 23, wherein the binder is microcrystalline cellulose and the disintegrant is crospovidone.

30. The use of the tablet core of any one of claims 22 to 29 in the manufacture of a medicament for treating or preventing a bacterial infection in a patient.

31. The use of claim 30, wherein the bacterial infection is a urinary tract infection, complicated urinary tract infection, or pyelonephritis.

32. The use of the tablet core of any one of claims 22 to 29 in the manufacture of a medicament for treating or preventing a *Mycobacterial tuberculosis* infection in a patient.