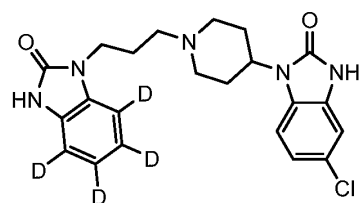


What is Claimed is:

1. A pharmaceutical formulation comprising:

(i) deuterated d₄-domperidone of the formula (I):

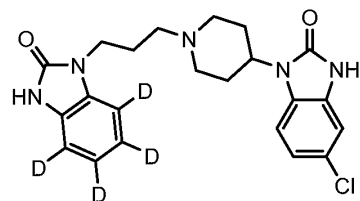


(I) or a pharmaceutically acceptable salt thereof;

a glyceryl stearate, and a medium chain triglyceride;

or

(ii) deuterated d₄-domperidone of the formula (I):

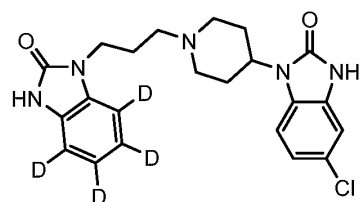


(I) or a pharmaceutically acceptable salt thereof;

a stearyl polyoxyl glyceride, a nonionic poly(ethylene oxide) polymer, and a medium chain triglyceride;

or

(iii) deuterated d₄-domperidone of the formula (I):



(I) or a pharmaceutically acceptable salt thereof;

a nonionic poly(ethylene oxide) polymer, and a polyethylene glycol.

2. The pharmaceutical formulation of claim 1, comprising a compound of formula (I) or a pharmaceutically acceptable salt thereof, a glyceryl stearate, and a medium chain triglyceride.

3. The pharmaceutical formulation of claim 1 or 2, wherein the glyceryl stearate is a glyceryl palmitostearate, a glycerol distearate, a glyceryl distearate, or a combination thereof.
4. The pharmaceutical formulation of any one of the preceding claims, comprising about 2 to about 20% (w/w), based on the weight of the formulation, of the glyceryl stearate, preferably about 5 to about 15% (w/w), or more preferably about 10% (w/w).
5. The pharmaceutical formulation of any one of the preceding claims, comprising about 70 to about 90% (w/w), based on the weight of the formulation, of the medium chain triglyceride, or preferably about 80 to about 85% (w/w).
6. The pharmaceutical formulation of any one of the preceding claims, wherein the glyceryl stearate is Precirol® ATO 5.
7. The pharmaceutical formulation of claim 1, comprising a compound of formula (I) or a pharmaceutically acceptable salt thereof, a stearyl polyoxyl glyceride, a nonionic poly(ethylene oxide) polymer, and a medium chain triglyceride.
8. The pharmaceutical formulation of claim 7, comprising about 3 to about 15% (w/w), based on the weight of the formulation, of the stearyl polyoxyl glyceride, preferably about 5 to about 10% (w/w), or more preferably about 7% (w/w).
9. The pharmaceutical formulation of claim 7 or 8, comprising about 5 to about 40% (w/w), based on the weight of the formulation, of the nonionic poly(ethylene oxide) polymer, preferably about 12 to about 25% (w/w), or more preferably about 19% (w/w).
10. The pharmaceutical formulation of any one of claims 7 to 9, comprising about 40 to about 80% (w/w), based on the weight of the formulation, of the medium chain triglyceride, preferably about 50 to 68% (w/w), or more preferably about 64% (w/w).
11. The pharmaceutical formulation of any one of claims 7 to 10, wherein the stearyl polyoxyl glyceride is Gelucire® 50/13.

12. The pharmaceutical formulation of any one of claims 7 to 11, wherein the nonionic poly(ethylene oxide) polymer is polyethylene oxide 303.
13. The pharmaceutical formulation of claim 1, comprising a compound of formula (I) or a pharmaceutically acceptable salt thereof, a nonionic poly(ethylene oxide) polymer, and a polyethylene glycol.
14. The pharmaceutical formulation of claim 13, comprising about 5 to about 30% (w/w), based on the weight of the formulation, of the nonionic poly(ethylene oxide) polymer, preferably about 10 to about 20% (w/w), or more preferably about 15% (w/w).
15. The pharmaceutical formulation of claim 13, comprising about 70 to about 90% (w/w), based on the weight of the formulation, of the polyethylene glycol, preferably about 70 to about 80% (w/w), or more preferably about 75% (w/w).
16. The pharmaceutical formulation of any one of claims 13 to 15, wherein the nonionic poly(ethylene oxide) polymer has a M_w of about 400,000 to about 8,000,000.
17. The pharmaceutical formulation of any one of claims 13 to 16, wherein the nonionic poly(ethylene oxide) polymer has a M_w of about 7,000,000.
18. The pharmaceutical formulation of any one of claims 13 to 17, wherein the polyethylene glycol has a M_w of about 300 to about 1000.
19. The pharmaceutical formulation of any one of claims 13 to 18, wherein the polyethylene glycol has a M_w of about 400.
20. The pharmaceutical formulation of any one of the preceding claims, further comprising an antioxidant.
21. The pharmaceutical formulation of claim 20, wherein the antioxidant is ascorbic acid, ascorbyl palmitate, butylated hydroxyanisole, butylated hydroxytoluene, propyl gallate, potassium metabisulfite, sodium metabisulfite, sodium thiosulfate, or vitamin E, or preferably butylated hydroxyanisole or butylated hydroxytoluene.

22. The pharmaceutical formulation of any one of the preceding claims, comprising about 1 to about 20% (w/w), based on the weight of the formulation, of d₄-domperidone, preferably about 5 to about 12% (w/w), or more preferably about 10% (w/w).
23. The pharmaceutical formulation of any one of the preceding claims, comprising about 1 to about 50 mg of d₄-domperidone.
24. A method for treating a disorder that is gastroparesis, nausea apart from gastroparesis, vomiting apart from gastroparesis, nausea associated with gastroparesis, vomiting associated with gastroparesis, gastroesophageal reflux disease, insufficient lactation, or a combination thereof in a patient, comprising administering to the patient the formulation of any one of claims 1 to 23.
25. The method of claim 24, wherein the administration is oral, transdermal, parenteral, or a combination thereof.
26. The method of claim 24 or 25, wherein the administration is oral.
27. The method of any one of claims 24 to 26, wherein the formulation is in the form of a tablet, capsule, softgel, suspension, liquid, or combination thereof.
28. The method of any one of claims 24 to 27, wherein the disorder is gastroparesis.
29. The method of any one of claims 24 to 27, wherein the disorder is gastroesophageal reflux disease.
30. The method of any one of claims 24 to 27, wherein the disorder is insufficient lactation.
31. A pharmaceutical formulation of any one of claims 1 to 23 for use in treating a disorder that is gastroparesis, nausea apart from gastroparesis, vomiting apart from gastroparesis, nausea associated with gastroparesis, vomiting associated with gastroparesis, gastroesophageal reflux disease, insufficient lactation, or a combination thereof in a patient.

- 32. The pharmaceutical composition of claim 31, wherein the formulation is in the form of a tablet, capsule, softgel, suspension, liquid, or combination thereof.
- 33. The pharmaceutical composition of claim 31 or 32, wherein the disorder is gastroparesis.
- 34. The pharmaceutical composition of claim 31 or 32, wherein the disorder is gastroesophageal reflux disease.
- 35. The pharmaceutical composition of claim 31 or 32, wherein the disorder is insufficient lactation.