What is claimed:

ACLAIMS:

1. 1. Use of a A non-aqueous or anhydrous pharmaceutical composition comprising dantrolene, or a pharmaceutically acceptable salt thereof, or a mixture thereof, and a pharmaceutically acceptable carrier comprising a C_{1-6}alkyl alcohol, a polyol, a polyether, or a mixture thereof. in the manufacture of a medicament

2. The pharmaceutical composition of claim 1, that is a non-aqueous pharmaceutical composition.

3. The pharmaceutical composition of claim 1, that is an anhydrous pharmaceutical composition.

4. The pharmaceutical composition of any one of the preceding claims, having an effective pH of 3 to 11.5, preferably 4 to 9 or 5 to 8, more preferably having an effective pH of 7.4.

5. The pharmaceutical composition of any one of the preceding claims, comprising dantrolene.

6. The pharmaceutical composition of any one of claims 1 to 4, comprising dantrolene sodium.

7. The pharmaceutical composition of any one of the preceding claims, comprising dantrolene and dantrolene sodium.

8. The pharmaceutical composition of any one of the preceding claims, wherein the carrier is suitable, for intravenous administration to a human.

9. The pharmaceutical composition of any one of the preceding claims, wherein the carrier comprises ethanol, an alkylene glycol, or a liquid polyalkylene glycol, or a mixture thereof.

10. The pharmaceutical composition of any one of claims 1 o 8, wherein the carrier comprises ethanol, an alkylene glycol, or a capped liquid polyalkylene glycol, or a mixture thereof.

11. The pharmaceutical composition of any one of claims 1 to 8, wherein the carrier comprises ethanol, propylene glycol, or a polyethylene glycol, or a mixture thereof.

12. The pharmaceutical composition of any one of claims 1 to 8, wherein the carrier comprises ethanol, propylene glycol, or a capped polyethylene glycol, or a mixture thereof.

13. The pharmaceutical composition of any one of claims 1 to 8, wherein the carrier comprises propylene glycol or a polyethylene glycol or a mixture thereof.

14. The pharmaceutical composition of any one of the preceding claims, wherein the carrier comprises propylene glycol.

15. The pharmaceutical composition of any one of the preceding, wherein the carrier comprises polyethylene glycol.

16. The pharmaceutical compositions of any one of the preceding claims, further comprising an additional pharmaceutically acceptable excipient.

17. A method of treating a disorder responsive to dantrolene in a subject comprising administering to the subject a therapeutically effective amount of a pharmaceutical composition of any one of claims 1 to 16.

18. The method of claim 17, ;

wherein the disorder is malignant hyperthermia, chronic spasticity, exertional heat stroke, cardiac arrhythmias, tachycardis, atrial fibrillation, cardiac arrest, myocardial infarction, heart failure, myocardial injury, cardiomyopathy, central core disease, amyotrophic lateral sclerosis, rhabdomyolysis, Duchenne muscular dystrophy, ataxia, detrusor overactivity, overactive bladder, seizure, epilepsy, neuroleptic malignant syndrome, human stress disorder, Alzheimer's disease, Huntington's disease, multiple sclerosis, Parkinson's disease, ischemia-reperfusion injury, neuronal reperfusion injury, hypoxia, cerebral aneurysm, subarachnoid hemorrhage, stroke, hyperthermia associated with drug abuse, hyperthermia associated with drug overdose, nerve agent exposure, or acetylcholine accumulation.

2. 19. The methoduse of claim 17 or claim 18, 1 wherein the administration pharmaceutical composition has an effective pH of 3 to 11.5, preferably 4 to 9 or 5 to 8, more preferably having an effective pH of 7.4.

3. The use of any one of the preceding claims wherein the pharmaceutical composition comprises dantrolene.

4. The use of any one of the preceding claims wherein the pharmaceutical composition comprises dantrolene sodium.

5. The use of any one of the preceding claims wherein the pharmaceutical composition comprises dantrolene and dantrolene sodium.

6. The use of any one of the preceding claims, wherein the carrier is to be administered intravenously to a human.

7. The use of any one of the preceding claims, wherein the carrier comprises ethanol, an alkylene glycol, or a liquid polyalkylene glycol, or a mixture thereof.

8. The use of any one of the preceding claims, wherein the carrier comprises ethanol, an alkylene glycol, or a capped liquid polyalkylene glycol, or a mixture thereof.

9. The use of any one of the preceding claims, wherein the carrier comprises ethanol, propylene glycol, or a polyethylene glycol, or a mixture thereof.

10. The use of any one of the preceding claims, wherein the carrier comprises ethanol, propylene glycol, or a capped polyethylene glycol, or a mixture thereof.

11. The use of any one of the preceding claims, wherein the carrier comprises propylene glycol or a polyethylene glycol or a mixture thereof.

12. The use of any one of the preceding claims, wherein the carrier comprises propylene glycol.

13. The use of any one of the preceding claims, wherein the carrier comprises polyethylene glycol.

14. The use of any one of the preceding claims wherein the pharmaceutical composition further comprises an additional pharmaceutically acceptable excipient.

15. The use of any one of the preceding claims, wherein the pharmaceutical composition is to be administered intravenously ~~intravenous administration~~.

~~20.~~ 16. The ~~method~~use of ~~claim 17 or claim 18~~any one of the preceding claims, wherein the ~~administration~~pharmaceutical composition is to be administered intramuscularly or subcutaneously ~~intramuscular administration or subcutaneous administration~~.

~~21.~~ 17. The ~~method~~use of ~~claim 17 or claim 18~~any one of the preceding claims, wherein the ~~administration~~pharmaceutical composition is to be administered orally or intranasally ~~oral administration or intranasal administration~~.

22. 18. The methoduse of claim 17 or claim 18any one of the preceding claims, wherein the administrationpharmaceutical composition is to be administered intraosseously administration.

23. A lyophilized pharmaceutical composition comprising dantrolene and a pharmaceutically acceptable salt of dantrolene.

24. The lyophilized pharmaceutical composition of claim 23, exhibiting an effective pH of 4 to 9 when reconstituted with a pharmaceutically acceptable carrier that is a C_{1-6}alkyl alcohol, a polyol, a polyether, or a mixture thereof.

25. A method of treating a disorder responsive to dantrolene in a subject comprising

reconstituting a lyophilized pharmaceutical composition comprising dantrolene and a pharmaceutically acceptable salt of dantrolene with a pharmaceutically acceptable carrier that is a C_{1-6}alkyl alcohol, a polyol, a polyether, or a mixture thereof, to produce a reconstituted solution comprising dantrolene and a pharmaceutically acceptable salt of dantrolene having an effective pH of 4 to 9;

diluting the reconstituted solution with an additional pharmaceutically acceptable carrier to produce a diluted reconstituted solution comprising dantrolene and a pharmaceutically acceptable salt of dantrolene; and

administering a therapeutically effective amount of the diluted reconstituted solution to the subject.

26. A method of treating a disorder responsive to dantrolene in a subject comprising

diluting a pharmaceutical composition of any one of claims 1 to 16 with an additional pharmaceutically acceptable carrier to produce a diluted pharmaceutical composition comprising dantrolene and a pharmaceutically acceptable salt of dantrolene; and

administering a therapeutically effective amount of the diluted pharmaceutical composition to the subject.

27. The method of claim 25 or 26, wherein the disorder is malignant hyperthermia, chronic spasticity, exertional heat stroke, cardiac arrhythmias, tachycardis, atrial fibrillation, cardiac arrest, myocardial infarction, heart failure, myocardial injury, cardiomyopathy, central core disease, amyotrophic lateral sclerosis, rhabdomyolysis, Duchenne muscular dystrophy, ataxia, detrusor overactivity, overactive bladder, seizure, epilepsy, neuroleptic malignant syndrome, human stress disorder, Alzheimer's disease, Huntington's disease, multiple sclerosis, Parkinson's disease, ischemia-reperfusion injury, neuronal reperfusion injury, hypoxia, cerebral aneurysm, subarachnoid hemorrhage, stroke, hyperthermia associated with drug abuse, hyperthermia associated with drug overdose, nerve agent exposure, or acetylcholine accumulation.

28. The method of any one of claims 25 to 27, wherein the administration is intravenous administration.

29. The method of any one of claims 25 to 28, wherein the administration is intramuscular administration or subcutaneous administration.

30. The method of any one of claims 25 to 29, wherein the administration is oral administration or intranasal administration.

31. The method of any one of claims 25 to 30, wherein the administration is intraosseous administration.

32. The method of any one of claims 25 to 31, wherein the pharmaceutically acceptable dantrolene salt is dantrolene sodium.