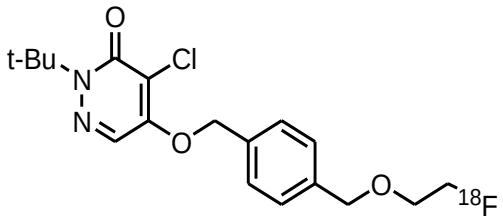
Claims

What is claimed:

1. A method of imaging a subject, comprising:

administering to a subject a first dose of imaging agent comprising the formula:



in an amount between about 1 mCi and about 4 mCi;

acquiring at least one first image of a portion of the subject;

subjecting the subject to stress;

administering to the subject undergoing stress a second dose of the imaging agent in an amount greater than the first dose of the imaging agent by at least about 1.5 times the first dose of the imaging agent; and

acquiring at least one second image of the portion of the subject.

2. The method of claim 1, wherein the second dose of the imaging agent is administered within less than about 48 hours, about 24 hours, about 18 hours, about 12 hours, about 6 hours, about 5 hours, about 4 hours, about 3 hours, about 2 hours, about 1 hour, about 30 minutes, or about 15 minutes after acquiring the at least one first image.

3. The method of claim 1, wherein the second dose of the imaging agent is at least about 2.0 times greater than the first dose of the imaging agent.

4. The method of claim 1, wherein the portion of the subject is at least a portion of the cardiovascular system.

5. The method of claim 4, wherein the portion of the cardiovascular system is at least a portion of the heart.

6. The method of claim 1, wherein the acquiring employs positron emission tomography.

7. The method of claim 1, further comprising determining the presence or absence of a cardiovascular disease or condition in the subject.

8. The method of claim 7, wherein the cardiovascular disease is coronary artery disease or myocardial ischemia.

9. The method of claim 1, wherein the imaging agent is administered as a formulation comprising water, less than about 5% ethanol, and less than about 50 mg/mL sodium ascorbate.

10. The method of claim 1, wherein the stress is induced by exercising the subject.

11. The method of claim 10, wherein the second dose of the imaging agent is administered during the exercise.

12. The method of claim 10, wherein the wait time between acquiring at least one first image of a portion of the subject and administering to the subject a second dose of the imaging agent is about 60 minutes.

13. The method of claim 1, wherein the second dose of the imaging agent is administered in an amount that is at least about 2.5 times greater than the first dose of the imaging agent.

14. The method of claim 13, wherein the second dose of the imaging agent is administered in an amount between about 2.5 and about 5.0 times greater than the first dose of the imaging agent.

15. The method of claim 10, wherein the second dose of the imaging agent is between about 8.6 mCi and about 9.5 mCi.

16. The method of claim 1, wherein the stress is pharmacological stress.

17. The method of claim 16, wherein the pharmacological stress is induced by administering a pharmacological stress agent to the subject.

18. The method of claim 17, wherein the pharmacological stress agent is a vasodilator.

19. The method of claim 16, wherein the second dose of the imaging agent is administered after the subject has been administered the pharmacological stress agent.

20. The method of claim 16, wherein the second dose of the imaging agent is administered when the subject is at peak vasodilation from the pharmacological stress agent.

21. The method of claim 1, wherein the first dose of the imaging agent is between about 2.0 mCi to about 3.5 mCi.

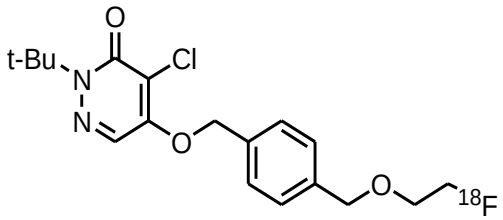
22. The method of claim 21, wherein the second dose of the imaging agent is between about 5.7 mCi and about 6.2 mCi, or between about 6.0 mCi and about 6.5 mCi, and about 5.7 mCi and about 6.5 mCi.

23. The method of claim 1, wherein the total of the first and second dose of the imaging agent does not exceed about 14 mCi.

24. A method of imaging a subject, comprising:

subjecting a subject to stress;

administering to the subject a first dose of an imaging agent comprising the formula:



in an amount between about 1 mCi and about 4 mCi;

acquiring at least one first image of a portion of the subject;

administering to the subject a second dose of the imaging agent in an amount greater than the first dose of the imaging agent; and

acquiring at least one second image of the portion of the subject.

25. The method of claim 24, wherein the amount of the second dose is more than about 1.5 times the amount of the first dose.