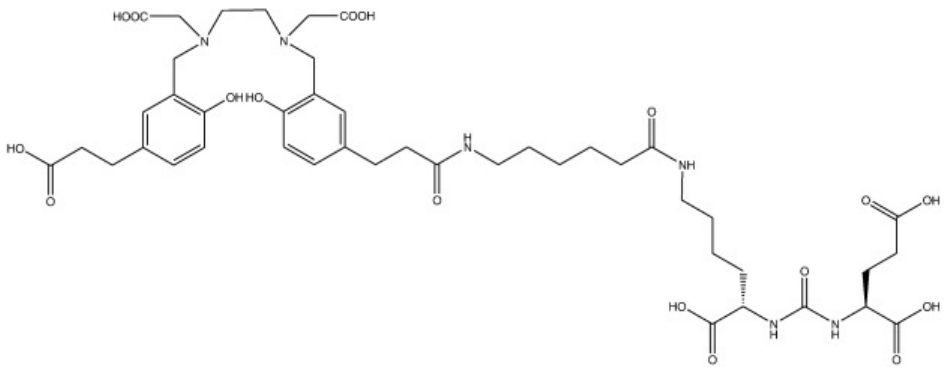
CLAIMS

1. A method for labeling a PSMA binding ligand with a radioactive isotope, wherein said radioactive isotope is ^{68}Ga or ^{67}Ga, said method comprising the steps of:

   i. providing a single vial comprising, in dried form, said PSMA binding ligand of the following formula (I):



(I);

   sodium acetate as buffering agent, sodium chloride, and gentisic acid as a stabilizer against radiolytic degradation,

   ii. adding a solution of said radioactive isotope into said single vial, thereby obtaining a solution of said PSMA binding ligand of formula (I) with said radioactive isotope, and

   iii. mixing the solution obtained in ii., and incubating it for a sufficient period of time for obtaining said PSMA binding ligand labelled with said radioactive isotope.

2. The method of Claim 1, further comprising:

   iv. adjusting the pH of the solution.

3. The method of Claim 1, wherein said single vial does not contain any bulking agent selected from the group consisting of carbohydrate and polymeric agent and the buffering agent is a buffer suitable for obtaining a pH from 3.0 and 6.0, at the incubating step (iii).

4. The method of Claim 3, wherein said single vial does not contain any of the following bulking agents: mannitol, maltose, trehalose, polyvinylpyrrolidone, and mixtures thereof.

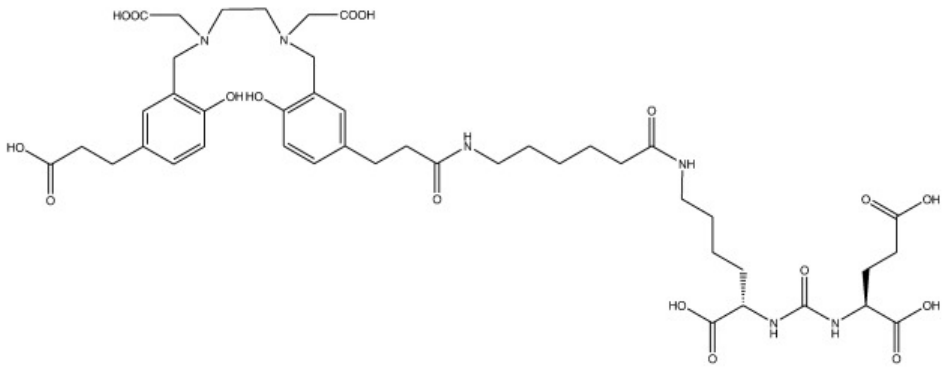
5. The method of Claim 1, wherein said PSMA binding ligand of formula (I) is comprised in said single vial in an amount between 5 μg and 60 μg.

6. The method of Claim 5, wherein said PSMA binding ligand of formula (I) is comprised in said single vial in an amount between 10 μg and 40 μg.

7. The method of Claim 5, wherein said PSMA binding ligand of formula (I) is comprised in said single vial in an amount between 15 μg and 30 μg.

8. The method of Claim 5, wherein said PSMA binding ligand of formula (I) is comprised in said single vial in an amount of 25 μg.

9. A powder for a solution for injection, comprising the following components in dried form:
   i. a PSMA-binding ligand of formula (I):



(I);

   ii. sodium chloride;
   iii. sodium acetate as buffering agent, and
   iv. gentisic acid as a stabilizer against radiolytic degradation.

10. The powder for a solution for injection of Claim 9, wherein said powder comprises:
   i. the PSMA binding ligand of formula (I) in an amount between 5 μg and 60 μg;
   ii. sodium chloride in an amount between 10 mg and 100 mg;
   iii. sodium acetate in an amount between 20 mg and 80 mg; and
   iv. gentisic acid in an amount between 0.5 mg and 2 mg.

11. The powder for a solution for injection of Claim 10, wherein said powder comprises the PSMA binding ligand of formula (I) in an amount between 10 μg and 40 μg.

12. The powder for a solution for injection of Claim 10, wherein said powder comprises the PSMA binding ligand of formula (I) in an amount between 15 μg and 30 μg.

13. The powder for a solution for injection of Claim 10, wherein said powder comprises the PSMA binding ligand of formula (I) in an amount of 25 μg.

14. The powder for a solution for injection of Claim 10, wherein said powder comprises sodium chloride in an amount between 30 mg and 50 mg.

15. The powder for a solution for injection of Claim 10, wherein said powder comprises sodium chloride in an amount of 40 mg.

16. The powder for a solution for injection of Claim 10, wherein said powder comprises sodium acetate in an amount between 42 mg and 52 mg.

17. The powder for a solution for injection of Claim 10, wherein said powder comprises sodium acetate in an amount of 47 mg.

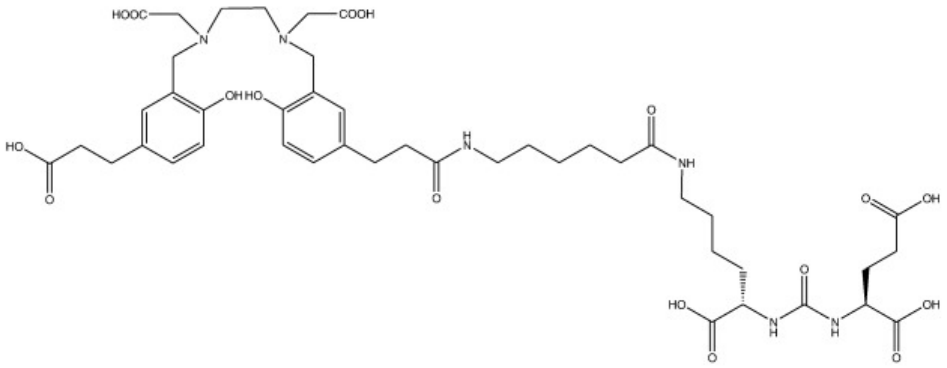
18. The powder for a solution for injection of Claim 10, wherein said powder comprises gentisic acid in an amount between 0.8 mg and 1.2 mg.

19. The powder for a solution for injection of Claim 10, wherein said powder comprises gentisic acid in an amount of 1 mg.

20. The powder for a solution for injection of Claim 10, wherein said powder does not contain any bulking agent selected from the group consisting of carbohydrate and polymeric agent.

21. The powder for a solution for injection of Claim 20, wherein said powder does not contain any of the following bulking agents: mannitol, maltose, trehalose, polyvinylpyrrolidone, and mixtures thereof.

22. A kit for carrying out the method of Claim 1, comprising:
a single vial with the following components in dried form:
i. a PSMA-binding ligand of formula (I):



(I),

ii. sodium chloride;

iii. sodium acetate as buffering agent; and

iv. gentisic acid as a stabilizer against radiolytic degradation.

23. The kit of Claim 22 further comprising:

v. an accessory cartridge for eluting a radioactive isotope generated by a radioactive isotope generator or cyclotron.

24. The kit of Claim 22, wherein said single vial comprises:

i. the PSMA-binding ligand of formula (I) in an amount between 5 μg and 60 μg;

ii. sodium chloride in an amount between 10 mg and 100 mg;

iii. sodium acetate in an amount between 20 mg and 80 mg; and

iv. gentisic acid in an amount between 0.5 mg and 2 mg.

25. The kit of Claim 24 further comprising:

v. an accessory cartridge for eluting a radioactive isotope generated by a radioactive isotope generator or cyclotron.

26. The kit of Claim 24, wherein said single vial comprises the PSMA binding ligand of formula (I) in an amount between 10 μg and 40 μg.

27. The kit of Claim 24, wherein said single vial comprises the PSMA binding ligand of formula (I) in an amount between 15 μg and 30 μg.

28. The kit of Claim 24, wherein said single vial comprises the PSMA binding ligand of formula (I) in an amount of 25 μg.

29. The kit of Claim 24, wherein said single vial comprises sodium chloride in an amount between 30 mg and 50 mg.

30. The kit of Claim 24, wherein said single vial comprises sodium chloride in an amount of 40 mg.

31. The kit of Claim 24, wherein said single vial comprises sodium acetate in an amount between 42 mg and 52 mg.

32. The kit of Claim 24, wherein, said single vial comprises sodium acetate in an amount of 47 mg.

33. The kit of Claim 24, wherein said single vial comprises gentisic acid an amount between 0.8 mg and 1.2 mg.

34. The kit of Claim 24, wherein said single vial comprises gentisic acid in an amount of 1 mg.

35. The kit of Claim 22, wherein the kit does not contain any bulking agent selected from the group consisting of carbohydrate and polymeric agent.

36. The kit of Claim 22, wherein said kit does not contain any of the following bulking agents: mannitol, maltose, trehalose, polyvinylpyrrolidone and mixtures thereof.