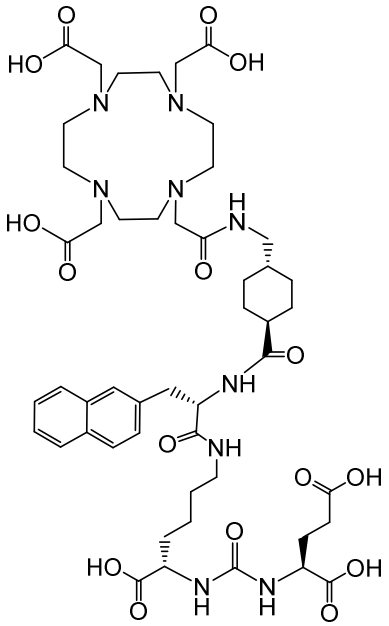
WHAT IS CLAIMED IS:

1. A method for treating a cancer in a patient in need of such treatment comprising, administering to the patient a therapeutically effective amount of a compound of the formula 1



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wherein the compound is complexed with a metal.

2. The method of claim 1, wherein the cancer is a PSMA expressing cancer.

3. The method of claim 1, wherein the compound of the formula 1 is at least about 98 percent pure.

4. The method of claim 1, wherein the cancer is prostate cancer, or metastatic castration-resistant prostate cancer.

5. The method of any one of the preceding claims, wherein the compound of the formula 1, is administered in a parenteral dosage form.

6. The method of claim 5, wherein the parenteral dosage form is selected from the group consisting of intradermal, subcutaneous, intramuscular, intraperitoneal, intravenous, and intrathecal.

7. The method of any one of claims 1 to 4, wherein the therapeutically effective amount is from about 2 GBq to about 13 GBq, or about 4 GBq to about 11 GBq, or about 5 GBq to about 10 GBq, or about 6 GBq to about 9 GBq, about 6.5 GBq to about 8.5 GBq, or about 7 GBq to about 8 GBq

8. The method of any one of claims 1 to 4, wherein the therapeutically effective amount is about 7.4 GBq.

9. The method of any one of claims 1 to 4, further comprising imaging PSMA expression by the cancer.

10. The method of claim 9, wherein the imaging occurs before the step of administering.

11. The method of claim 10, wherein the imaging is performed by imaging and wherein the imaging is selected from the group consisting of SPECT imaging, PET imaging, IHC, and FISH.

12. The method of claim 11, wherein the imaging is performed by SPECT imaging.

13. The method of any one of claims 1 to 4, further comprising determining the PSMA status of the patient by imaging.

14. The method of claim 13, wherein the imaging is SPECT imaging.

15. The method of claim 14, wherein the PSMA status of the patient correlates with a clinical benefit to the patient.

16. The method of claim 15, wherein the clinical benefit is selected from the group consisting of inhibition of tumor growth, stable disease, a partial response, and a complete response.

17. The method of claim 16, wherein the clinical benefit is stable disease.

18. The method of claim 16, wherein at least one PSMA positive lesion indicates functionally active PSMA.

19. The method of any one of claims 1 to 4, wherein the patient has been treated with at least one prior treatment.

20. The method of claim 19, wherein the at least one prior treatment is selected from the group consisting of an androgen axis systemic treatment, chemotherapeutic agent, surgery, radiation therapy, immunotherapy, photodynamic therapy, stem cell therapy, and hyperthermia.

21. The method of claim 20, wherein the at least one prior treatment is an androgen axis drug systemic treatment.

22. The method of claim 20, wherein the at least one prior treatment is selected from the group consisting of abiraterone, orteronel, galeterone, seviteronel, apalutamide, enzalutamide, and combinations thereof.

23. The method of claim 19, wherein the at least one prior treatment is selected from the group consisting of palifosfamide, 5-fluorouracil, capecitabine, pemetrexed, cisplatin, carboplatin, gemcitabine, paclitaxel, vinorelbine, eribulin, docetaxel, cyclophosphamide, doxorubicin, regorafinib, and combinations thereof.

24. The method of any one of claims 1 to 4, wherein the compound of the formula 1 is administered in combination with a second treatment.

25. The method of claim 24, wherein the second treatment is best supportive treatment.

26. The method of claim 24, wherein the second treatment is best standard of care treatment.

27. The method of claim 24, wherein the second treatment is best supportive/best standard of care treatment.

28. The method of claim 24, wherein the second treatment is an androgen axis systemic treatment.

29. The method of claim 28, wherein the androgen axis systemic treatment is selected from the group consisting of abiraterone, orteronel, galeterone, seviteronel, apalutamide, enzalutamide, and combinations thereof.

30. The method of claim 24, wherein the second treatment is radiation therapy.

31. The method of claim 24, wherein the radiation therapy is external beam radiation therapy (EBRT).

32. The method of any one of claims 1 to 4, wherein the compound of the formula 1 is administered on a schedule of once per week, or once per every 2 weeks, or once per every 3 weeks, once per every 4 weeks, or once per every 5 weeks, or once per every 6 weeks, or once per every 7 weeks, or once per every 8 weeks.

33. The method of any one of the claims 1 to 32, wherein the compound of the formula 1 is administered on a schedule of once per every 4 to 6 weeks.

34. The method of claim 32 or 33, wherein the compound of the formula 1 is administered for about 2 to 8 cycles of the schedule, or about 3 to 7 cycles of the schedule, or about 4 to 6 cycles of the schedule.

35. The method of any one of the preceding claims, wherein the metal is selected from the group consisting of ^{90}Y, ^{177}Lu, ^{64}Cd, ^{153}Gd, ^{155}Gd, ^{157}Gd, ^{213}Bi, and ^{225}Ac.

36. The method of claim 35, wherein the metal is ^{177}Lu.

37. The method of claim 35, wherein the metal is ^{225}Ac.