WHAT IS CLAIMED:

1. Use of a first agent comprising a first targeting component coupled to a first cancer therapeutic component and a second agent comprising a second targeting component coupled to a second cancer therapeutic component, for use in the preparation of a medicament for the treatment of cancer, wherein the first and second targeting components have different biodistributions and/or pharmacokinetics in the subject;

wherein the first and second agents are to be administered, no more than eight hours apart from each other, to the subject to treat cancer, wherein, the resulting amount of first and second cancer therapeutic components internalized and retained within a tumor is greater than the sum of first and second cancer therapeutic components internalized and retained in a tumor if each of the first and second agents are to be administered individually.

2. The use according to claim 1, wherein the first and second agents are to be administered no more than 4 hours apart from each other.

3. The use according to claim 1, wherein the first and second agents are to be administered simultaneously.

4. The use according to claim 1, wherein the first and second targeting components target the same molecular target.

5. The use according to claim 1, wherein the first and second targeting components target different molecular targets on the same cell.

6. The use according to claim 1, wherein the first and second cancer therapeutic components each have a maximum tolerated dose, and either (1) the maximum tolerated doses of the first and second cancer therapeutic components are to be administered or (2) less than the maximum tolerated doses of the first and second cancer therapeutic components are to be administered.

7. The use according to claim 1, wherein the cancer is prostate cancer, neuroendocrine cancer, breast cancer, Non-Hodgkin's Lymphoma or Hodgkin's disease.

8. The use according to claim 7, wherein the cancer is prostate cancer.

9. The use according to claim 8, wherein the first and second targeting components target the prostate-specific membrane antigen (PSMA) receptor.

10. The use according to claim 1, wherein the first and second targeting components target a cancer cell membrane molecule.

11. A therapeutic composition comprising:

a first agent comprising a first targeting component coupled to a first cancer therapeutic component and

a second agent, blended with said first agent, said second agent comprising a second targeting component coupled to a second cancer therapeutic component, wherein the first and second targeting components have different biodistributions and/or pharmacokinetics in a subject.

12. The use according to claim 1 or the therapeutic composition according to claim 11, wherein the first and second targeting components are independently selected from the group consisting of an antibody or binding fragment thereof, a protein, a peptide, and a small molecule.

13. The use according to claim 1 or the therapeutic composition according to claim 11, wherein the first and second cancer therapeutic components are independently selected from the group consisting of a radionuclide and a cytotoxic agent.

14. The use according to claim 1 or the therapeutic composition according to claim 11, wherein the first and/or second cancer therapeutic component is a radionuclide independently selected from the group consisting of ^{86}Re, ^{90}Y, ^{67}Cu, ^{169}Er, ^{121}Sn, ^{127}Te, ^{142}Pr, ^{143}Pr, ^{198}Au, ^{199}Au, ^{161}Tb, ^{109}Pd, ^{188}Rd, ^{166}Dy,^{166}Ho, ^{149}Pm, ^{151}Pm, ^{153}Sm, ^{159}Gd, ^{172}Tm, ^{169}Yb, ^{175}Yb, ^{177}Lu, ^{105}Rh, ^{111}Ag, ^{131}I, ^{177m}Sn, ^{225}Ac, ^{227}Th, ^{212}Pb, ^{211}At, and combinations thereof.

15. The use according to claim 1 or the therapeutic composition according to claim 11, wherein the first and/or second cancer therapeutic component is a cytotoxic agent independently selected from the group consisting of busulfan, cisplatin, carboplatin, chlorambucil, cyclophosphamide, ifosfamide, dacarbazine (DTIC), mechlorethamine (nitrogen mustard), melphalan carmustine (BCNU), lomustine (CCNU), 5-fluorouracil (5-FU), capecitabine, methotrexate, gemcitabine, cytarabine (ara-C), fludarabine, dactinomycin, daunorubicin, doxorubicin (Adriamycin), idarubicin, mitoxantrone, paclitaxel, docetaxel, cabazitaxel, etoposide (VP-16), vinblastine, vincristine, vinorelbine, prednisone, dexamethasone, tamoxifen, fulvestrant, anastrozole, letrozole, megestrol acetate, bicalutamide, flutamide, leuprolide, goserelin, L-asparaginase, tretinoin, maytansines, auristatins, pyrrolobenzodiazepines, duocarmycins, and combinations thereof.

16. The use according to claim 1 or 9, or the therapeutic composition according to claim 11, wherein the first targeting component is a PSMA receptor antibody or antigen binding portion thereof and the second targeting component is a PSMA receptor binding peptide or PSMA receptor inhibitor.

17. The use or therapeutic composition according to claim 16, wherein the first targeting component is an antibody selected from the group consisting of J591, J415, J533, and E99, while the second targeting component is a peptide selected from the group consisting of PSMA 617, PSMA I&T, DCFBC, DCFPyL, glutamate-urea-lysine analogs, phosphoramidate analogs, 2-(phosphinylmethyl) pentanedioic acid analogs, and other PSMA ligands/inhibitors/peptides.

18. The use or therapeutic composition according to claim 16, wherein the first agent is J591-^{177}Lu or J591-^{225}Ac and the second agent is PSMA 617-^{177}Lu, PSMA 617-^{225}Ac, PSMA I&T-^{177}Lu or PSMA I&T-^{225}Ac.