WHAT IS CLAIMED:

1. ~~A method of treating a subject for cancer, said method comprising:~~

~~providing a~~Use of a~~A~~ first agent comprising a first targeting component coupled to a first cancer therapeutic component~~;~~ and

~~providing~~ 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 ~~said treatment comprises:and~~

~~administering~~ 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, ~~as a result of said administering,~~ 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 ~~were~~ are to be administered individually.

~~2. The method according to claim 1, wherein the first and second agents are administered no more than 6 hours apart from each other.~~

~~3~~2. The ~~method~~ use according to claim 1, wherein the first and second agents are to be administered no more than 4 hours apart from each other.

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

~~5~~3. The ~~method~~ use according to claim 1, wherein the first and second agents are to be administered simultaneously.

~~6. The method according to claim 1, wherein the first and second targeting components are independently selected from the group consisting of an antibody or antigen binding fragment or derivative thereof, a protein, a peptide, and a small molecule.~~

~~4~~7. The ~~method~~ use according to claim 1, wherein the first and second targeting components target the same molecular target.

~~5~~8. The ~~method~~ use according to claim 1, wherein the first and second targeting components target different molecular targets on the same cell.

~~9~~6. The ~~method~~ 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~~given during said administering~~ or (2) ~~less than the maximum tolerated doses of the first and second cancer therapeutic components are given during said administering~~.

~~10. The method according to claim 1, wherein the first and second cancer therapeutic components each have a maximum tolerated dose, and less than the maximum tolerated doses of the first and second cancer therapeutic components are to be administered given during said administering.~~

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

~~12. The method 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.~~

~~13. The method 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.~~

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.

~~14~~8. The ~~method~~ use according to claim 7~~16~~, wherein the cancer is prostate cancer.

~~15~~9. The ~~method~~ use according to claim 8~~147~~, wherein the first and second targeting components target the prostate-specific membrane antigen (PSMA) receptor.

~~16. The method according to claim 15, 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 method 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 method 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 I&T-^{177}Lu, PSMA 617-^{225}Ac, or PSMA I&T-^{225}Ac.~~

~~19. The method according to claim 1, wherein the subject is a human.~~

~~20. The method according to claim 1, wherein the cancer is a neuroendocrine cancer.~~

~~21. The method according to claim 20, wherein the first and second targeting components target the somatostatin receptor.~~

~~22. The method according to claim 21, wherein the first and second targeting components target the somatostatin receptor-2 (SSTR-2) isoform.~~

~~23. The method according to claim 20, wherein the neuroendocrine cancer is selected from the group consisting of carcinoid tumors, gastrinoma, insulinoma, glucagonoma, VIPoma, somatostatinoma, thyroid carcinoma, Merkel cell carcinoma of the skin, tumor of the anterior pituitary, medullary carcinoma, parathyroid tumor, thymus and mediastinal carcinoid tumor, pulmonary neuroendocrine tumor, adrenomedullary tumor, pheochromocytoma, Schwannoma, paraganglioma, neuroblastoma, and urinary tract carcinoid neuroendocrine carcinoma.~~

~~24. The method according to claim 1, wherein the cancer is breast cancer.~~

~~25. The method according to claim 24, wherein the first and second targeting components target the HER receptor family.~~

~~26. The method according to claim 1, wherein the cancer is non-Hodgkin's Lymphoma.~~

~~27. The method according to claim 26, wherein the first and second targeting components target CD20.~~

~~28. The method according to claim 1, wherein the cancer is Hodgkin's disease.~~

~~29. The method according to claim 28, wherein the first and second targeting components target CD30.~~

~~28. The method according to claim 1, wherein the first and second agents are different.~~

~~29~~10. The ~~method~~ use according to claim 1, wherein the first and second targeting components target a cancer cell membrane molecule.

~~30~~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.

~~32~~12. The use according to claim 1 or the therapeutic composition according to claim ~~31~~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.

~~33~~13. The use according to claim 1 or the therapeutic composition according to claim 11~~3210~~, wherein the first and second cancer therapeutic components are independently selected from the group consisting of a radionuclide and a cytotoxic agent.

~~34~~14. The use according to claim 1 or the therapeutic composition according to claim 11~~3411~~, 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.

~~35~~15. The use according to claim 1 or the therapeutic composition according to claim ~~32~~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.

~~36~~16. The use according to claim 1 or 9~~86~~, or the therapeutic composition according to claim ~~31~~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.

~~37~~17. The use or therapeutic composition according to claim ~~36~~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.

~~38~~18. The use or therapeutic composition according to claim ~~36~~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.