

CLAIMS

1. A method of treating a solid tumor cancer, the method comprising:
administering a combination to a subject in need thereof, the combination comprising at least two chemotherapy agents and a dose of a composition consisting essentially of attenuated *Salmonella typhimurium*.
2. The method of claim 1 wherein the at least two chemotherapy agents comprise gemcitabine and capecitabine.
3. The method of claim 1 wherein the at least two chemotherapy agents comprise two or more of leucovorin, 5-fluorouracil, irinotecan, and oxaliplatin.
4. The method of claim 3 wherein the at least two chemotherapy agents comprise each of leucovorin, 5-fluorouracil, irinotecan, and oxaliplatin.
5. The method of any of claims 1-4 wherein the solid tumor cancer is selected from liver cancer, lung cancer, pancreatic cancer, breast cancer, prostate cancer, skin cancer, kidney cancer, bone cancer, gastrointestinal cancers, cancers of the soft tissue, muscle cancer, adrenal cancer, colon cancer, and bladder cancer.
6. The method of claim 5 wherein the solid tumor cancer is pancreatic cancer.
7. The method of any of claims 1-6 wherein the at least two chemotherapy agents are administered intravenously or orally.
8. The method of any of claims 1-7 wherein the dose of attenuated *Salmonella typhimurium* is administered orally.
9. The method of any of claims 1-8 wherein the subject is a mammal.
10. The method of claim 9 wherein the mammal is a human.
11. The method of any of claims 1-10 wherein the dose of attenuated *Salmonella typhimurium* is from 10^5 to 10^{10} colony forming units.

12. The method of any of claims 1-11 wherein the solid tumor cancer is a metastatic cancer.
13. The method of any of claims 1-12 wherein the at least two chemotherapy agents and/or the attenuated *Salmonella typhimurium* is administered to the subject every two to four weeks.
14. A method of treating a solid tumor cancer, the method comprising:
administering a combination to a subject in need thereof, the combination comprising at least two chemotherapy agents and a dose of a composition consisting essentially of attenuated *Salmonella typhimurium* containing a plasmid carrying a coding sequence encoding a truncated human interleukin-2, wherein the truncated human interleukin-2 consists of the amino acid sequence shown in SEQ ID NO: 2.
15. The method of claim 14 wherein the at least two chemotherapy agents comprise gemcitabine and capecitabine.
16. The method of claim 14 wherein the at least two chemotherapy agents comprise two or more of leucovorin, 5-fluorouracil, irinotecan, and oxaliplatin.
17. The method of claim 16 wherein the at least two chemotherapy agents comprise each of leucovorin, 5-fluorouracil, irinotecan, and oxaliplatin.
18. The method of claim any of claims 14-17 wherein the solid tumor cancer is selected from liver cancer, lung cancer, pancreatic cancer, breast cancer, prostate cancer, skin cancer, kidney cancer, bone cancer, gastrointestinal cancers, cancers of the soft tissue, muscle cancer, adrenal cancer, colon cancer, and bladder cancer.
19. The method of claim 18 wherein the solid tumor cancer is pancreatic cancer.
20. The method of any of claims 14-19 wherein the at least two chemotherapy agents are administered intravenously or orally.
21. The method of any of claims 14-20 wherein the dose of attenuated *Salmonella typhimurium* is administered orally.

22. The method of any of claims 14-21 wherein the subject is a mammal.
23. The method of claim 22 wherein the mammal is a human.
24. The method of any of claims 14-23 wherein the dose of attenuated *Salmonella typhimurium* is from 10^5 to 10^{10} colony forming units.
25. The method of any of claims 14-24 wherein the solid tumor cancer is a metastatic cancer.
26. The method of any of claims 14-25 wherein the at least two chemotherapy agents and/or the attenuated *Salmonella typhimurium* is administered to the subject every two to four weeks.
27. An anti-tumor agent for use in a method of treating cancer, the anti-tumor agent comprising a combination comprising at least two chemotherapy agents and a dose of a composition consisting essentially of attenuated *Salmonella typhimurium* containing a plasmid carrying a coding sequence encoding a truncated human interleukin-2, wherein the truncated human interleukin-2 consists of the amino acid sequence shown in SEQ ID NO: 2, the method comprising:
administering the combination to a subject in need thereof.
28. The anti-tumor agent of claim 27 wherein the at least two chemotherapy agents comprise gemcitabine and capecitabine.
29. The anti-tumor agent of claim 27 wherein the at least two chemotherapy agents comprise two or more of leucovorin, 5-fluorouracil, irinotecan, and oxaliplatin.
30. The anti-tumor agent of claim 29 wherein the at least two chemotherapy agents comprise each of leucovorin, 5-fluorouracil, irinotecan, and oxaliplatin.
31. The anti-tumor agent of any of claims 27-30 wherein the solid tumor cancer is selected from liver cancer, lung cancer, pancreatic cancer, breast cancer, prostate cancer, skin cancer, kidney cancer, bone cancer, gastrointestinal cancers, cancers of the soft tissue, muscle cancer, adrenal cancer, colon cancer, and bladder cancer.
32. The anti-tumor agent of claim 31 wherein the solid tumor cancer is pancreatic cancer.

33. The anti-tumor agent of any of claims 27-32 wherein the at least two chemotherapy agents are administered intravenously or orally.
34. The anti-tumor agent of any of claims 27-33 wherein the dose of attenuated *Salmonella typhimurium* is administered orally.
35. The anti-tumor agent of any of claims 27-34 wherein the subject is a mammal.
36. The anti-tumor agent of claim 35 wherein the mammal is a human.
37. The anti-tumor agent of any of claims 27-36 wherein the dose of attenuated *Salmonella typhimurium* is from 10^5 to 10^{10} colony forming units.
38. The anti-tumor agent of any of claims 27-37 wherein the solid tumor cancer is a metastatic cancer.
39. The anti-tumor agent of any of claims 27-38 wherein the at least two chemotherapy agents and/or the attenuated *Salmonella typhimurium* is administered to the subject every two to four weeks.
40. A method of treating pancreatic cancer, the method comprising:
administering a combination to a subject in need thereof, the combination comprising at least two chemotherapy agents and a dose of a composition consisting essentially of attenuated *Salmonella typhimurium* containing a plasmid carrying a coding sequence encoding a truncated human interleukin-2, wherein the truncated human interleukin-2 consists of the amino acid sequence shown in SEQ ID NO: 2, wherein the at least two chemotherapy agents comprise leucovorin, 5-fluorouracil, irinotecan, and oxaliplatin.