Claims

1. A method of treating cancer and cancer-induced malignant effusion in a subject in need of treatment, the method comprising administering to the subject a pharmaceutical composition or medicament comprising polyinosinic:polycytidylic acid (PIC), wherein the pharmaceutical composition or medicament is administered to the mucosa of the subject.

2. Polyinosinic:polycytidylic acid (PIC) for use in a method of treating cancer and cancer-induced malignant effusion in a subject, the method comprising administering a pharmaceutical composition or medicament comprising PIC to the mucosa of the subject.

3. Use of PIC in the manufacture of a medicament for use in a method of treatment of cancer and cancer-induced malignant effusion, the method comprising administration of the medicament to the mucosa of the subject.

4. The method of claim 1, PIC for use in a method of treating cancer and cancer-induced malignant effusion of claim 2, or the use of claim 3, wherein the pharmaceutical composition or medicament comprises PIC and at least one stabilising agent.

5. The method of claim 4, PIC for use in a method of treating cancer of claim 4, or the use of claim 4, wherein the stabilising agent is selected from the group consisting of kanamycin, poly-lysine, protamine, chitin, chitosan, spermine and glucosamine.

6. The method of claim 4, PIC for use in a method of treating cancer of claim 4, or the use of claim 4, wherein the stabilising agent is Kanamycin.

7. The method of claim 6, PIC for use in a method of treating cancer of claim 6, or the use of claim 6, wherein the pharmaceutical composition or medicament comprises 500 to 10000 µg PIC per unit dose and 500 to 10000 IU kanamycin per unit dose.

8. The method of claims 1 or 4 to 7, PIC for use in a method of treating cancer of claims 2 or 4 to 10, or the use of claims 3 or 4 to 10, wherein the pharmaceutical composition or medicament further comprises calcium chloride.

9. The method of claim 8, PIC for use in a method of treating cancer of claim 12, or the use of claim 8, wherein the amount of calcium chloride is 0.1 to 5.0 mmol per unit dose.

10. The method of claims 1 or 4 to 9, PIC for use in a method of treating cancer of claims 2 or 4 to 9, or the use of claims 3 or 4 to 9, wherein the method is for treatment of a cancer-induced malignant effusion.

11. The method of claims 1 or 4 to 10, PIC for use in a method of treating cancer of claims 2 or 4 to 10, or the use of claims 3 or 4 to 10, wherein the mucosa is lung mucosa, intestinal mucosa or airway mucosa.

12. The method of claims 1 or 4 to 11, PIC for use in a method of treating cancer of claims 2 or 4 to 11, or the use of claims 3 or 4 to 11, wherein the ratio of polyinosinic acid and polycytidylic acid is selected from the group consisting of 0.8:1.0, 0.9:1.0, 1.0:1.0, 1.0:1.1, 1.0:1.2.

13. The method of claims 1 or 4 to 12, PIC for use in a method of treating cancer of claims 2 or 4 to 12, or the use of claims 3 or 4 to 12, wherein the pharmaceutical composition or medicament is a liquid or fluid formulation in which a unit dose is provided in a volume of the liquid or fluid between 0.1 ml and 10.0 ml.

14. The method of claims 1 or 4 to 13, PIC for use in a method of treating cancer of claims 2 or 4 to 13, or the use of claims 3 or 4 to 13, wherein the pharmaceutical composition or medicament further comprises an antigen.

15. The method of claims 1 or 4 to 14, PIC for use in a method of treating cancer of claims 2 or 4 to 14, or the use of claims 3 or 4 to 14, wherein the source of antigen is a human, non-human animal, plant, bacteria, fungus, virus, parasite or cancer antigen.

16. The method of claims 1 or 4 to 15, PIC for use in a method of treating cancer of claims 2 or 4 to 15, or the use of claims 3 or 4 to 15, wherein the pharmaceutical composition or medicament acts as an adjuvant in enhancing immunogenic responses in the subject host against virus, bacteria, fungus, parasite or cancer.

17. The method of claims 1 or 4 to 16, PIC for use in a method of treating cancer of claims 2 or 4 to 16, or the use of claims 3 or 4 to 16, wherein the pharmaceutical composition or medicament is delivered or administered vaginally, rectally, intranasally, intragastrically, enterally, ocularly, orally, by inhalation, opthamalically, topically, pulmonary, or transdermally.

18. The method of claims 1 or 4 to 16, PIC for use in a method of treating cancer of claims 2 or 4 to 16, or the use of claims 3 or 4 to 16, wherein the pharmaceutical composition or medicament is delivered or administered by inhalation, e.g. via the assistance of inhaler, spray, applicator or nebulizer.

19. The method of claims 1 or 4 to 18, PIC for use in a method of treating cancer of claims 2 or 4 to 18, or the use of claims 3 or 4 to 18, wherein the pharmaceutical composition or medicament is delivered or administered 5 times per day, 4 times per day, 3 times per day, twice per day, once per day, on alternative days, 6 times per week, 5 times per week, 4 times per week, 3 times per week, twice per week, weekly, four times per month, 3 times per month, twice per month, monthly, or bimonthly.

20. The method of claims 1 or 4 to 19, PIC for use in a method of treating cancer of claims 2 or 4 to 19, or the use of claims 3 or 4 to 19, wherein the pharmaceutical composition or medicament is delivered or administered in conjunction with another administration of the pharmaceutical composition or medicament by a route selected from the group consisting of intradermal injection, intramuscular injection, subcutaneous injection, intravenous infusion, intraperitoneal perfusion, intrapleural perfusion, intrapericardial injection.

21. The method of claims 1 or 4 to 20, PIC for use in a method of treating cancer of claims 2 or 4 to 20, or the use of claims 3 or 4 to 20, wherein the pharmaceutical

composition or medicament is delivered or administered by systemic administration and by mucosal delivery or administration.

22. The method of claims 1 or 4 to 21, PIC for use in a method of treating cancer of claims 2 or 4 to 21, or the use of claims 3 or 4 to 21, wherein the pharmaceutical composition or medicament is administered during and/or via an intestinal intubation, gastric intubation, chest drainage, thoracentesis, temporary or permanent pleural catheter insertion, thoracoscopic pleurodesis, pericardial intraluminal stenting or fenestrated drainage, or surgical shunting procedure.

23. The method of claims 1 or 4 to 22, PIC for use in a method of treating cancer of claims 2 or 4 to 22, or the use of claims 3 or 4 to 22, wherein the pharmaceutical composition or medicament is effective in controlling cancerous growth and reducing tumor size at the site of deposition and/or remote site of deposition.

24. The method of claims 1 or 4 to 23, PIC for use in a method of treating cancer of claims 2 or 4 to 23, or the use of claims 3 or 4 to 23, wherein the pharmaceutical composition or medicament is effective in controlling cancer-induced malignant effusion.

25. The method of claims 1 or 4 to 24, PIC for use in a method of treating cancer of claims 2 or 4 to 24, or the use of claims 3 or 4 to 24, wherein the method further comprises administering a therapeutically effective amount of radiation targeted against the underlying cancer.

26. The method of claim 25, PIC for use in a method of treating cancer of claim 25, or the use of claim 25, wherein the radiation is given before, after or during the administration of the pharmaceutical composition or medicament.