WHAT IS CLAIMED:

1. Use of one or more therapeutic agents for the preparation of a medicament for the treatment of a tumor in a subject within 8 hours after photoimmunotherapy of the subject with an antibody-IR700 conjugate, wherein:

the antibody of the antibody-IR700 conjugate specifically binds to a cell surface protein of a tumor cell; and

photoimmunotherapy comprises irradiation of the tumor following administration of the antibody-IR700 conjugate.

2. The use of claim 1, wherein the therapeutic agent is an anti-cancer agent.

3. The use of claim 1 or claim 2, wherein the tumor cell is a cancer cell.

4. The use of claim 3, wherein the cancer cell is a cancer cell of the breast, liver, colon, ovary, prostate, pancreas, brain, cervix, bone, skin, or lung.

5. The use of claim 3, wherein the cancer cell is a cancer cell of the blood.

6. The use of any of claims 1-5, wherein the cell surface protein is a tumor-specific protein.

7. The use of claim 6, wherein the tumor-specific protein comprises HER1, HER2, CD20, CD25, CD33, CD52, CD44, CD133, Louis Y, mesothelin, CEA, or prostate specific membrane antigen (PSMA).

8. The use of any of claims 1-7, wherein the antibody is selected from among Cetuximab, panitumumab, zalutumumab, nimotuzumab, matuzumab, Trastuzumab, pertuzumab, Tositumomab, Rituximab, Daclizumab, Gemtuzumab, Alemtuzumab, J591 and Basiliximab.

9. The use of any of claims 1-8, wherein the therapeutic agent is selected from among a chemotherapeutic agent, an anti-angiogenic agent, an immunosuppressant, a cytokine, a radiotherapeutic agent, an antibiotic, an alkylating agent, an antioxidant, a kinase inhibitor, a microtubule binding agent, a DNA intercalator or cross-linker, a DNA synthesis inhibitor, a DNA or RNA transcription inhibitor, an antibody, an enzyme, and an enzyme inhibitor.

10. The use of any of claims 1-9, wherein the therapeutic agent is nano-sized or is associated with a nanoparticle.

11. The use of claim 10, wherein the nanoparticle comprises a liposome encapsulating the agent.

12. The use of claim 10 or claim 11, wherein the therapeutic agent comprises a diameter of at least 10 nm, at least 30 nm, at least 100 nm or at least 200 nm.

13. A combination comprising a therapeutic agent and an antibody-IR700 conjugate for use in the treatment of a tumor, wherein:

the antibody of the antibody-IR700 conjugate specifically binds to a cell surface protein of a tumor cell;

the therapeutic agent is nano-sized or is associated with a nanoparticle; and

the therapeutic agent is to be administered within 8 hours of photoimmunotherapy with the antibody-IR700 conjugate, wherein photoimmunotherapy comprises irradiation of the tumor following administration of the antibody-IR700 conjugate.

14. The combination for use of claim 13, wherein the therapeutic agent is an anti-cancer agent.

15. The combination for use of claim 13 or claim 14, wherein the tumor cell is a cancer cell.

16. The combination for use of claim 15, wherein the cancer cell is a cancer cell of the breast, liver, colon, ovary, prostate, pancreas, brain, cervix, bone, skin, or lung.

17. The combination for use of claim 15, wherein the cancer cell is a cancer cell of the blood.

18. The combination for use of any of claims 13-17, wherein the cell surface protein is a tumor-specific protein.

19. The combination for use of claim 18, wherein the tumor-specific protein comprises HER1, HER2, CD20, CD25, CD33, CD52, CD44, CD133, Louis Y, mesothelin, CEA, or prostate specific membrane antigen (PSMA).

20. The combination for use of any of claims 13-19, wherein the antibody is selected from among Cetuximab, panitumumab, zalutumumab, nimotuzumab, matuzumab, Trastuzumab, pertuzumab, Tositumomab, Rituximab, Daclizumab, Gemtuzumab, Alemtuzumab, J591 and Basiliximab.

21. The combination for use of any of claims 13-20, wherein the therapeutic agent is associated with a nanoparticle and the nanoparticle comprises a liposome encapsulating the therapeutic agent.

22. The combination for use of any of claims 13-21, wherein the therapeutic agent is selected from among a chemotherapeutic agent, an anti-angiogenic agent, an immunosuppressant, a cytokine, a radiotherapeutic agent, an antibiotic, an alkylating agent, an antioxidant, a kinase inhibitor, a microtubule binding agent, a DNA intercalator or cross-linker, a DNA synthesis inhibitor, a DNA or RNA transcription inhibitor, an antibody, an enzyme, and an enzyme inhibitor.

23. The combination for use of any of claims 13-22, wherein the therapeutic agent comprises a diameter of at least 10 nm, at least 30 nm, at least 100 nm or at least 200 nm.

WHAT IS CLAIMED:

1. The use of one or more therapeutic agents for the preparation of a medicament for the treatment of a tumor in a subject within 8 hours after photoimmunotherapy of the subject with an antibody-IR700 conjugate, wherein:

the antibody of the antibody-IR700 conjugate specifically binds to a cell surface protein of a tumor cell; and

photoimmunotherapy comprises irradiation of the tumor following administration of the antibody-IR700 conjugate.

2. The use of claim 1, wherein the therapeutic agent is an anti-cancer agent.

3. The use of claim 1 or claim 2, wherein the tumor cell is a cancer cell.

4. The use of claim 3, wherein the cancer cell is a cancer cell of the breast, liver, colon, ovary, prostate, pancreas, brain, cervix, bone, skin, or lung.

5. The use of claim 3, wherein the cancer cell is a cancer cell of the blood.

6. The use of any of claims 1-5, wherein the cell surface protein is a tumor-specific protein.

7. The use of claim 6, wherein the tumor-specific protein comprises HER1, HER2, CD20, CD25, CD33, CD52, CD44, CD133, Louis Y, mesothelin, CEA, or prostate specific membrane antigen (PSMA).

8. The use of any of claims 1-7, wherein the antibody is selected from among Cetuximab, panitumumab, zalutumumab, nimotuzumab, matuzumab, Trastuzumab, pertuzumab, Tositumomab, Rituximab, Daclizumab, Gemtuzumab, Alemtuzumab, J591 and Basiliximab.

9. The use of any of claims 1-8, wherein the therapeutic agent is selected from among a chemotherapeutic agent, an anti-angiogenic agent, an immunosuppressant, a cytokine, a radiotherapeutic agent, an antibiotic, an alkylating agent, an antioxidant, a kinase inhibitor, a microtubule binding agent, a DNA intercalator or cross-linker, a DNA synthesis inhibitor, a DNA or RNA transcription inhibitor, an antibody, an enzyme, and an enzyme inhibitor.

10. The use of any of claims 1-9, wherein the therapeutic agent is nano-sized or is associated with a nanoparticle.

11. The use of claim 10, wherein the nanoparticle comprises a liposome encapsulating the agent.

12. The use of claim 10 or claim 11, wherein the therapeutic agent comprises a diameter of at least 10 nm, at least 30 nm, at least 100 nm or at least 200 nm.

13. The use of a combination comprising a therapeutic agent and an antibody-IR700 conjugate in the manufacture of a medicament for the treatment of a tumor, wherein:

the antibody of the antibody-IR700 conjugate specifically binds to a cell surface protein of a tumor cell;

the therapeutic agent is nano-sized or is associated with a nanoparticle; and

the therapeutic agent is to be administered within 8 hours of photoimmunotherapy with the antibody-IR700 conjugate, wherein photoimmunotherapy comprises irradiation of the tumor following administration of the antibody-IR700 conjugate.

14. The use of claim 13, wherein the therapeutic agent is an anti-cancer agent.

15. The use of claim 13 or claim 14, wherein the tumor cell is a cancer cell.

16. The use of claim 15, wherein the cancer cell is a cancer cell of the breast, liver, colon, ovary, prostate, pancreas, brain, cervix, bone, skin, or lung.

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20. The use of any of claims 13-19, wherein the antibody is selected from among Cetuximab, panitumumab, zalutumumab, nimotuzumab, matuzumab, Trastuzumab, pertuzumab, Tositumomab, Rituximab, Daclizumab, Gemtuzumab, Alemtuzumab, J591 and Basiliximab.

21. The use of any of claims 13-20, wherein the therapeutic agent is associated with a nanoparticle and the nanoparticle comprises a liposome encapsulating the therapeutic agent.

22. The use of any of claims 13-21, wherein the therapeutic agent is selected from among a chemotherapeutic agent, an anti-angiogenic agent, an immunosuppressant, a cytokine, a radiotherapeutic agent, an antibiotic, an alkylating agent, an antioxidant, a kinase inhibitor, a microtubule binding agent, a DNA intercalator or cross-linker, a DNA synthesis inhibitor, a DNA or RNA transcription inhibitor, an antibody, an enzyme, and an enzyme inhibitor.

23. The use of any of claims 13-22, wherein the therapeutic agent comprises a diameter of at least 10 nm, at least 30 nm, at least 100 nm or at least 200 nm.