What is claimed is:

1. A melanoma vaccine comprising:

at least one dendritic cell from a subject that has melanoma,

wherein the at least one dendritic cell has been contacted *in vitro* with at least one melanoma tumor cell from the same subject,

wherein the at one least melanoma tumor cell is non-dividing, autophagic, and non-apoptotic,

wherein the vaccine is effective to provide superior long-term survival rates compared to patient-specific irradiated tumor cells.

2. A composition comprising:

interferon-gamma (IFN-gamma) treated melanoma cells from a subject, and antigen presenting cells (APCs) from the same subject, wherein the melanoma cells are autophagic; and non-apoptotic.

3. The composition of claim 2, wherein the melanoma cells express MHC class II.

4. The composition of claim 2, wherein the APCs are dendritic cells, macrophages, or B cells.

5. The composition of claim 2, wherein the melanoma cells comprise melanoma-specific peptides, and as a result of the contacting step at least one of the melanoma-specific peptides is taken up by the APCs and are partially or substantially processed by the APCs.

6. Use of an immunologically effective amount of the composition of claim 2 or the melanoma vaccine of claim 1 in the manufacture of a medicament for stimulating an immune response against a melanoma-specific antigen in a subject having melanoma.

7. The use of claim 6, wherein the immune response comprises one or more of a CD4+ T cell response, a CD8+ T cell response, and a B cell response.

8. The use of claim 7, wherein the CD4+ T cell response, CD8+ T cell response, or B cell response is determined by ELISPOT assays, by intracellular cytokine staining assays, by tetramer assays, or by detecting antigen-specific antibody production.

9. The use of claim 6, wherein the immune response results in a 2-year overall survival of at least 60%.

10. The use of claim 6, wherein the administration comprises subcutaneous injections of the vaccine.

11. The use of claim 6, wherein the administration comprises injections of the vaccine given weekly for three months and then monthly for five months.

12. A method for preparing a melanoma vaccine, comprising melanoma cells and dendritic cells from the same subject, the method comprising:

treating one or more melanoma cells with an agent that prevents cell division;

treating the one or more melanoma cells *in vitro* with interferon-gamma (IFN-gamma) or with an IFN-gamma mimetic;

selecting the melanoma cells that are autophagic and non-apoptotic;

rejecting melanoma cells that are non-autophagic and apoptotic;

contacting the melanoma cells that are autophagic and non-apoptotic with one or more autologous dendritic cells *in vitro*; and

allowing uptake of at least one melanoma-derived peptide from the melanoma cells by the one or more autologous dendritic cells to produce a melanoma vaccine.

13. A method for preparing a melanoma vaccine, comprising:

treating melanoma cells obtained from a subject with melanoma with an agent that prevents cell division;

treating the melanoma cells with IFN-gamma or an IFN-gamma mimetic;

selecting melanoma cells that are autophagic and non-apoptotic; and,

contacting the selected melanoma cells with autologous dendritic cells from the same subject *in vitro* to form a melanoma vaccine.

14. A composition comprising a melanoma vaccine prepared by the method of claim 13.

15. Themethod of claim 12 or 13, wherein greater than 80% of said melanoma cells that are treated *in vitro* with IFN-gamma or a IFN-gamma mimetic are autophagic and non-apoptotic.

16. The melanoma vaccine of claim 1, wherein all of the melanoma cells are incapable of cell division.

17. The melanoma vaccine of claim 1, wherein the melanoma cells are rendered incapable of cell division by irradiation or by a nucleic acid cross-linker.

18. Use of the melanoma vaccine of claim 1 in the manufacture of a medicament for stimulating an immune response against a melanoma-specific antigen in a subject with melanoma.

19. Use of the composition of claim 2 in the manufacture of a medicament for stimulating an immune response against a melanoma-associated antigen in a subject with melanoma.

20. Use of the composition of claim 2 in the manufacture of a medicament for the treatment of melanoma.

21. Use of the melanoma vaccine of claim 1 in the manufacture of a medicament for the treatment of melanoma.

22. Use of an immune-stimulatory amount of the melanoma vaccine of claim 1in the manufacture of a medicament for treating melanoma in a subject in need thereof.

23. Use of an immune-stimulatory amount of the composition of claim 2 in the manufacture of a medicament for treating melanoma in a subject in need thereof.

What is claimed is:

1. A melanoma vaccine comprising:

at least one dendritic cell from a subject that has melanoma,

wherein the at least one dendritic cell has been contacted *in vitro* with at least one melanoma tumor cell from the same subject,

wherein the at least one melanoma tumor cell is non-dividing, autophagic, and non-apoptotic,

wherein the vaccine is effective to provide superior long-term survival rates compared to patient-specific irradiated tumor cells.

2. A method for preparing a melanoma vaccine, comprising melanoma cells and dendritic cells from the same subject, the method comprising:

treating one of more melanoma cells ~~is~~ with an agent that prevents cell division;

treating the one or more melanoma cells *in vitro* with interferon-gamma (IFN-gamma) or with an IFN-gamma mimetic;

selecting the melanoma cells that are autophagic and non-apoptotic;

rejecting melanoma cells that are non-autophagic and apoptotic;

contacting the melanoma cells that are autophagic and non-apoptotic with one or more autologous dendritic cells *in vitro*; and

allowing uptake of at least one melanoma-derived peptide from the melanoma cells by the one or more autologous dendritic cells to produce a melanoma vaccine.

3. A method for preparing a melanoma vaccine, comprising:

treating melanoma cells obtained from a subject with melanoma with an agent that prevents cell division;

treating the melanoma cells with IFN-gamma or an IFN-gamma mimetic;

selecting melanoma cells that are autophagic and non-apoptotic; and

contacting the selected melanoma cells with autologous dendritic cells from the same subject *in vitro* to form a melanoma vaccine.

4. A composition comprising a melanoma vaccine prepared by the method of claim 3.

5. The method of claim 2 or 3, wherein greater than 80% of said melanoma cells that are treated *in vitro* with IFN-gamma or a IFN-gamma mimetic are autophagic and non-apoptotic.

6. The melanoma vaccine of claim 1, wherein all of the melanoma cells are incapable of cell division.

7. The melanoma vaccine of claim 1, wherein the melanoma cells are rendered incapable of cell division by irradiation or by a nucleic acid cross-linker.

8. Use of the melanoma vaccine of claim 1 in the manufacture of a medicament for stimulating an immune response against a melanoma-specific antigen in a subject with melanoma.

9. Use of the melanoma vaccine of claim 1 in the manufacture of a medicament for the treatment of melanoma.

10. Use of an immune-stimulatory amount of the melanoma vaccine of claim 1 in the manufacture of a medicament for treating melanoma in a subject in need thereof.