CLAIMS

What is claimed is:

1. A method for growing yeast comprising culturing the yeast in medium wherein the media is maintained at a pH level of between 5.5 and 8 for at least 50% of time that the yeast are in culture.

2. A method for growing yeast comprising culturing the yeast in medium wherein the media is maintained at a pH level of between 5.5 and 8 and wherein the density of the yeast is at least 0.5 yeast units/mL.

3. A method for growing yeast by culturing the yeast in medium with a pH level of at least 5.5 for at least 50% of time that the yeast are in culture.

4. The method of claim 3 wherein the media is maintained at a pH level of between 5.5 and 8.

5. The method of claim 3 wherein the yeast is *Saccharomyces cerevisiae.*

6. The method of claim 3 wherein the medium is buffered with succinate or succinic acid.

7. The method of claim 6 wherein the medium additionally contains soytone.

8. The method of claim 3 wherein the yeast elicits an immune response when administered to an individual.

9. The method of claim 8 wherein the yeast expresses a heterologous antigen.

10. The method of claim 9 wherein the heterologous antigen is expressed on the surface of the yeast.

11. A composition comprising yeast cultured by any one the methods of claim 1, 2, or 3.

12. A method for producing antigen-expressing yeast by culturing yeast containing an expression system for expressing the antigen in a medium wherein the pH of the media is at least 5.5.

13. A method for producing antigen-expressing yeast by culturing yeast containing an expression system for expressing the antigen wherein the media is maintained at a pH level of between 5.5 and 8.

14. The method of claim 12 or 13 wherein the yeast is *Saccharomyces cerevisiae*.

15. The method of claim 14 wherein the medium is buffered with succinate or succinic acid.

16. The method of claim 15 wherein the medium additionally contains soytone.

17. The method of claim 12 or 13 wherein the yeast elicits an immune response when administered to an individual.

18. The method of claim 17 wherein the yeast expresses a heterologous antigen.

19. The method of claim 18 wherein the heterologous antigen is expressed on the surface of the yeast.

20. The method of claim 18 wherein the heterologous antigen is more readily accessible for interaction with other cells or agents than when the yeast is grown at a pH of less than 5.5.

21. A composition comprising yeast cultured by any one of the methods recited in claims 12 or 13.

22. A method of inducing a Th1-type response in an individual by administering to the individual a composition comprising antigen-expressing yeast wherein the yeast has been cultured in a medium with a pH level of at least 5.5.

23. A method of inducing a Th1-type response in an individual by administering to the individual a composition comprising antigen-expressing yeast wherein the yeast has been cultured in media wherein the media is maintained at a pH level of between 5.5 and 8.

24. The method of claim 23 wherein the composition comprises dendritic cells loaded with yeast which has been cultured, maintained or harvested at a neutral pH.

25. The method of claim 23 wherein the yeast is *Saccharomyces cerevisiae*.

26. The method of claim 23 wherein the medium is buffered with succinate or succinic acid.

27. The method of claim 26 wherein the medium additionally contains soytone.

28. The method of claim 23 wherein the yeast elicits an immune response when administered to an individual.

29. The method of claim 28 wherein the yeast expresses a heterologous antigen.

30. The method of claim 29 wherein the heterologous antigen is expressed on the surface of the yeast.

31. The method of claim 23 wherein the Th1-type response is interferon-gamma production.

32. The method of claim 23 wherein the Th1-type response is IL-12 production.

33. A kit for culturing yeast comprising media wherein the pH of the media is at least 5.5 and instructions for the use of the media to culture yeast.

34. A kit for culturing yeast comprising media wherein the pH of the media is maintained at a pH level of between 5.5 and 8 and instructions for the use of the media to culture yeast.

35. The kit of claim 34 wherein the medium is buffered with succinate or succinic acid.

36. The kit of claim 34 wherein the medium additionally contains soytone.

37. The kit of claim 34 wherein the kit additionally includes yeast.

38. The kit of claim 37 wherein the yeast is frozen or lyophilized.

39. The kit of claim 37 wherein the yeast has been cultured in a media of at least pH 5.5 or has been cultured in a media wherein the pH of the media is maintained at a pH level of between 5.5 and 8.

40. The kit of claim 37 wherein the yeast is capable of replication.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A pharmaceutical composition comprising a yeast of the genus *Saccharomyces,* wherein the yeast expresses a heterologous antigen, wherein the yeast has been cultured in a medium that is maintained at a pH level of between 5.5 and 8 such that the pH of the medium does not drop below pH5.5.

2. The pharmaceutical composition according to claim 1 , wherein the medium is maintained at a pH level in a range between pH6 and pH8.

3. The pharmaceutical composition according to claim 1 or 2, wherein the medium is buffered with a buffering agent .

4. The pharmaceutical composition according to claim 3, wherein the buffering agent is succinate, Bis-Tris, citrate or phosphate.

5. The pharmaceutical composition according to any one of claims 1 to 4, wherein the yeast is *Saccharomyces cerevisiae.*

6. The pharmaceutical composition according to any one of claims 1 to 5, wherein the heterologous antigen is expressed on the surface of the yeast.

7. The pharmaceutical composition according to any one of claims 1 to 6 when used in inducing a Th1-type immune response in an individual that is afflicted with a disease or disorder that would benefit from an enhanced Th1-type immune response.

8. The pharmaceutical composition when used in accordance with claim 7, wherein the Thl-type immune response is characterized by interferon-gamma production.

9. The pharmaceutical composition according to any one of claims 1 to 6 when used to elicit an immune response in an individual in the prophylaxis or treatment of a disease or ailment.

10. The pharmaceutical composition when used in accordance with claim 9, wherein the disease or ailment is an infectious disease or a cancer.

11. A method of growing yeast of the genus *Saccharomyces* in the production of a pharmaceutical composition, wherein said yeast expresses a heterologous antigen, and wherein said method comprises:

a) culturing yeast for at least three hours in a medium that is maintained at a pH level of between 5.5 and pH8 such that the pH of the medium does not drop below pH5.5, wherein said yeast is a yeast of the genus *Saccharomyces* and expressing a heterologous antigen; and

b) formulating a pharmaceutical composition comprising said yeast and a pharmaceutically acceptable excipient and/or carrier.

12. The method of claim 11, wherein the medium is maintained at a pH level in a range between pH6 and pH8.

13. The method of claim 11 or 12, wherein the medium is buffered with a buffering agent.

14. The method of claim 13, wherein the buffering agent is succinate, Bis-Tris, citrate or phosphate.

15. The method according to any one of claims 11 to 14, wherein the yeast is *Saccharomyces cerevisiae*.

16. The method according to any one of claims 11 to 15, further comprising lyophilizing the yeast.

17. Use of a yeast of the genus *Saccharomyces* and expressing a heterologous antigen in the preparation of a medicament for inducing an immune response in an individual, wherein said yeast expresses a heterologous antigen and has been prepared by a process comprising culturing for at least three hours in a medium that is maintained at a pH level of between 5.5 and pH8 such that the pH of the medium does not drop below pH5.5.

18. Use of a yeast of the genus *Saccharomyces* and expressing a heterologous antigen in the preparation of a medicament for inducing a Th1-type immune response in an individual that is afflicted with a disease or disorder that would benefit from an enhanced Th1-type immune response, wherein said yeast expresses a heterologous antigen and has been prepared by a process comprising culturing for at least three hours in a medium that is maintained at a pH level of between 5.5 and pH8 such that the pH of the medium does not drop below pH5.5.

19. The use of claim 18, wherein the disease or ailment is an infectious disease or a cancer.

20. The use according to any one of claims 17 to 19, wherein the yeast is *Saccharomyces cerevisiae*.