What is claimed is:

1. A composition comprising a fermented food product, wherein the food product has been fermented by the probiotic bacterium, *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778.

2. The composition of claim 1, wherein the food product is a dairy product or a cereal product.

3. The composition of claim 2, wherein the dairy product is milk, yoghurt, curd, cheese or an infant formula.

4. The composition of claim 2, wherein the cereal product is rice, wheat, oats, barley, corn, rye, sorghum, millet, or triticale.

5. The composition of any of claims 1-4, wherein the food product is dried.

6. The composition of any of claims 1-5, wherein the dried food product is rehydrated.

7. The composition of claim 6, wherein the dried, rehydrated food product is immunomodulatory.

8. The composition of any of claims 1-7, wherein the probiotic bacterium is non-replicating.

9. The composition of any of claims 1-8, wherein the food product comprises from about 1 $x10^2$ cfu/g to about 10^{12} cfu/g of probiotic bacteria per gram of dry weight.

10. A composition comprising the probiotic bacterium, *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778 and a physiologically acceptable carrier.

11. The composition of claim 10, wherein the physiologically acceptable carrier is a food product.

12. The composition of claim 11, wherein the food product is a dairy product or a cereal product.

13. The composition of claim 12, wherein the dairy product is milk, yoghurt, curd, cheese or an infant formula.

14. The composition of claim 12, wherein the cereal product is rice, wheat, oats, barley, corn, rye, sorghum, millet, or triticale.

15. The composition of any of claims 10-14, wherein the food product is dried.

16. The composition of any of claims 10-15, wherein the dried food product is rehydrated.

17. The composition of claim 16, wherein the dried, rehydrated food product is immunomodulatory.

18. The composition of any of claims 10-17, wherein the probiotic bacterium is non-replicating.

19. The composition of any of claims 10-18, wherein the food product comprises from about 1 x10^2 cfu/g to about 10^{12} cfu/g of probiotic bacteria per gram of dry weight.

20. The composition of claim 10, wherein the physiologically acceptable carrier is a pharmaceutically acceptable carrier.

21. The composition of claim 20, wherein the pharmaceutically acceptable carrier carrier comprises a lipid-based or polymer-based colloid.

22. The composition of claim 21, wherein the colloid is a liposome, a hydrogel, a microparticle, a nanoparticle or a block copolymer micelle.

23. The composition of claim 21, wherein the polymer-based colloid is a capsule.

24. The composition of any of claims 20-23, wherein the probiotic bacterium is non-replicating.

25. The composition of any of claims 20-24, wherein the probiotic bacterium is in a unit dosage form of about 1 x 10^2 cfu/g to about 1 x 10^{12} cfu/g dry weight.

26. The composition of any of claims 20-25, wherein the composition is formulated for oral administration.

27. A method of making a nutritional composition, the method comprising:
a) providing a food product;
b) combining the food product with an effective amount of the probiotic bacterium, *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778 and, optionally, a co-inoculum, to form a mixture;
c) incubating the mixture at a temperature and for a time sufficient for fermentation to occur.

28. The method of claim 27, wherein the food product is a dairy product or a cereal product.

29. The method of claim 27 or 28, wherein the amount of the probiotic bacterium is from about 1 x 10^6 cfu/ml to about 5 x 10^6 cfu/ml.

30. The method of any of claims 27-29, wherein the co-inoculum is *Streptococcus thermophilus*.

31. The method of claim 30 wherein the amount of the co-inoculum is from about 1 x 10^4 cfu/ml to about 1 x 10^5 cfu/ml.

32. The method of any of claims 27-31, wherein the incubating step continues until the level of probiotic bacteria in the mixture reaches about 1 x 10^8 cfu/ml to about 1 x 10^{10} cfu/ml.

33. The method of any of claims 27-32, further comprising drying the nutritional composition.

34. The method of claim 33, wherein the drying step is spray drying.

35. The method of any of claims 27-34, wherein the nutritional composition is further combined with one or more additional food products.

36. The method of claim 35, wherein the additional food product comprises a dairy product, a cereal product, a vegetable-based product, a fruit-based product or a protein-based product.

37. The method of claim 36, wherein the fruit-based product comprises a tomato product.

38. A method of modulating the immune system in a subject, the method comprising:
a) identifying a subject in need of immune system modulation;

b) administering an effective amount of a composition comprising a food product wherein the food product has been fermented by the probiotic bacterium, *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778.

39. The method of claim 38, wherein the food product comprises the food product of any of claims 1-19.

40. The method of claim 38 or 39, wherein the subject is a human infant.

41. A method of treating a subject at risk for a developing a gastrointestinal disorder, the method comprising:
a) identifying a subject at risk for a gastrointestinal disorder;
b) administering an effective amount of a composition comprising a food product wherein the food product has been fermented by the probiotic bacterium, *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778.

42. The method of claim 41, wherein the food product comprises the food product of any of claims 1-19.

43. The method of claim 41, wherein the gastrointestinal disorder is a mucosal immune system deficit, a food allergy, a disorder associated with diarrhea, a bacterial or viral infection, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, celiac disease or necrotizing enterocolitis.

44. The method of claim 43, wherein the mucosal immune system deficit is an immature immune system.

45. The method of any of claims 41-44, wherein the subject is a human infant.

46. A method of treating a subject having a gastrointestinal disorder, the method comprising:

a) identifying a subject having a gastrointestinal disorder;
b) administering an effective amount of a composition comprising a food product wherein the food product has been fermented by the probiotic bacterium, *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778.

47. The method of claim 46, wherein the food product comprises the food product of any of claims 1-19.

48. The method of claim 46, wherein the gastrointestinal disorder is a mucosal immune system deficit, a food allergy, a disorder associated with diarrhea, a bacterial or viral infection, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, celiac disease or necrotizing enterocolitis.

49. The method of claim 48, wherein the mucosal immune system deficit is an immature immune system.

50. The method of any of claims 46-49, wherein the subject is a human infant.

51. A method of treating a subject having a gastrointestinal disorder, the method comprising:

a) identifying a subject having a gastrointestinal disorder;

b) administering an effective amount of a pharmaceutical composition comprising the probiotic bacterium, Lactobacillus paracasei CBA L74, International Depository Accession Number LMG P-24778.

52. The method of claim 51, wherein the pharmaceutical composition comprises the composition of any of claims 20-26.

53. The method of claim 51, wherein the gastrointestinal disorder is a mucosal immune system deficit, a food allergy, a disorder associated with diarrhea, a bacterial or viral

infection, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, celiac disease or necrotizing enterocolitis.

54. The method of claim 53, wherein the mucosal immune system deficit is an immature immune system.

55. The method of any of claims 51-54, wherein the subject is a human infant.

56. Use of probiotic bacterium, *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778 for the preparation of a food product for treatment of a gastrointestinal disorder.

57. The use of claim 56, wherein the food product comprise the food product of any of claims 1-19.

58. The use of claims 56 or 57, wherein the gastrointestinal disorder is a mucosal immune system deficit, a food allergy, a disorder associated with diarrhea, a bacterial or viral infection, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, celiac disease or necrotizing enterocolitis.

59. The use of claim 58, wherein the mucosal immune system deficit is an immature immune system.

60. The use of any of claims 56-59, wherein the subject is a human infant.

61. Use of probiotic bacterium, *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778 for the preparation of a medicament for treatment of a gastrointestinal disorder.

62. The use of claim 61, wherein the pharmaceutical composition comprises the composition of any of claims 20-26.

63. The use of claim 61, wherein the gastrointestinal disorder is a mucosal immune system deficit, a food allergy, a disorder associated with diarrhea, a bacterial or viral infection, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, celiac disease or necrotizing enterocolitis.

64. The use of claim 63, wherein the mucosal immune system deficit is an immature immune system.

65. The use of any of claims 61-64, wherein the subject is a human infant.

66. The nutritional composition made by the method of any of claims 27-37.

67. A kit comprising a measured amount of a nutritional composition comprising a fermented food product, wherein the food product has been fermented by the probiotic bacterium, *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778 and one or more items selected from the group consisting of packaging material, a package insert comprising instructions for use, a sterile fluid, a syringe and a sterile container.

68. A kit comprising a measured amount of a pharmaceutical composition comprising *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778 and one or more items selected from the group consisting of packaging material, a package insert comprising instructions for use, a sterile fluid, and a sterile container.

CLAIMS

1. A composition comprising a fermented food product, wherein the food product has been fermented by the probiotic bacterium, *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778.

2. A composition comprising the probiotic bacterium, *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778 and a physiologically acceptable carrier.

3. The composition of claim 2, wherein the physiologically acceptable carrier is a food product.

4. The composition of any of claims 1 to 3, wherein the food product is a dairy product or a cereal product, the dairy product being preferably selected from the group consisting of milk, yoghurt, curd, cheese or an infant formula and the cereal product being preferably selected from the group consisting of rice, wheat, oats, barley, corn, rye, sorghum, millet, or triticale.

5. The composition of any of claims 1-4, wherein the food product is dried.

6. The composition of any of claims 1-5, wherein the probiotic bacterium is non-replicating.

7. The composition of any of claims 1-6, wherein the food product comprises from about 1 $x10^2$ cfu/g to about 10^{12} cfu/g of probiotic bacteria per gram of dry weight.

8. The composition of claim 2, wherein the physiologically acceptable carrier is a pharmaceutically acceptable carrier.

9. The composition of claim 8, wherein the pharmaceutically acceptable carrier carrier comprises a lipid-based or polymer-based colloid, the colloid being preferably selected from the group consisting of a liposome, a hydrogel, a microparticle, a nanoparticle or a block copolymer micelle.

10. The composition of claim 9, wherein the polymer-based colloid is a capsule.

11. The composition of any of claims 8 to 10, wherein the probiotic bacterium is in a unit dosage form of about 1 x 10^2 cfu/g to about 1 x 10^{12} cfu/g dry weight and is preferably formulated for oral administration.

12. A method of making a nutritional composition, the method comprising:
a) providing a food product;
b) combining the food product with an effective amount of the probiotic bacterium, *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778 and, optionally, a co-inoculum, to form a mixture;
c) incubating the mixture at a temperature and for a time sufficient for fermentation to occur.

13. The method of claim 12, wherein the amount of the probiotic bacterium is from about 1 x 10^6 cfu/ml to about 5 x 10^6 cfu/ml.

14. The method of claim 12 or 13, wherein the co-inoculum is *Streptococcus thermophilus*, preferably in an amount of from about 1 x 10^4 cfu/ml to about 1 x 10^5 cfu/ml.

15. The method of any of claims 12 to 14, wherein the incubating step continues until the level of probiotic bacteria in the mixture reaches about 1 x 10^8 cfu/ml to about 1 x 10^{10} cfu/ml.

16. The probiotic bacterium, *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778 for use in the treatment of a gastrointestinal disorder in a subject.

17. The probiotic bacterium, *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778 for use according to claim 16, wherein the probioteic bacterium is formulated in a food product or in a pharmaceutical composition, the food product preferably comprising the food product of any of claims 1-7, the pharmaceutical composition preferably comprising the composition of any of claims 8 to 11.

18. The probiotic bacterium, *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778 for use according to claim 16 or 17, wherein the gastrointestinal disorder is a mucosal immune system deficit, a food allergy, a disorder associated with diarrhea, a bacterial or viral infection, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, celiac disease or necrotizing enterocolitis.

19. The probiotic bacterium, *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778 for use according to claim 18, wherein the mucosal immune system deficit is an immature immune system.

20. The probiotic bacterium, *Lactobacillus paracasei* CBA L74, International Depository Accession Number LMG P-24778 for use according to any of claims 16 to 19, wherein the subject is a human infant.