CLAIMS

What is claimed is:

1. Use of a composition having a buffer strength of from about 9 to about 22 and comprising at least one salt having a pKa lower than about 4, in the manufacture of a nutritional composition for supporting resistance to growth of bacteria in the gastrointestinal tract of a subject, wherein the bacteria is selected from the group consisting of Enteropathogenic *E. coli* (EPEC), Enteroaggregative *E. coli* (EAEC), *Cronobacter sakazakii*, *Salmonella enterica*, and combinations thereof.

2. The use according to claim 1, wherein the nutritional composition is an infant formula.

3. The use according to claim 1, wherein the nutritional composition comprises a lipid source and a carbohydrate source.

4. The use according to claim 1, wherein the nutritional composition comprises a protein source.

5. The use according to claim 4, wherein the nutritional composition comprises a protein source having a whey to casein ratio of from about 55:45 to about 85:15.

6. The use according to claim 4, wherein the nutritional composition comprises a protein source having a whey to casein ratio of from about 60:40 to about 80:20.

7. The use according to claim 4, wherein the nutritional composition comprises a protein source having a whey to casein ratio selected from the group consisting of about 60:40, about 70:30 and about 80:20.

8. The use according to claim 1, wherein the nutritional composition comprises between about 0.2 and about 1.8% (w/w) of the at least one salt having a pKa lower than about 4.

9. The use according to claim 1, wherein the at least one salt having a pKa lower than 4 is selected from the group consisting of calcium gluconate, calcium lactate, calcium chloride, calcium phosphate and any combination thereof.

10. The use according to claim 1, wherein the nutritional composition further comprises at least one prebiotic.

11. The use according to claim 10, wherein the prebiotic composition comprises polydextrose.

12. The use according to claim 11, wherein the prebiotic composition further comprises galactooligosaccharide.

13. The use according to claim 12, wherein the ratio of galactooligosaccharide to polydextrose is from about 9:1 to about 1:9.

14. The use according to claim 1, wherein the nutritional composition further comprises about 5 mg/100 kcal to about 100 mg/100 kcal of at least one source of long chain polyunsaturated fatty acids.

15. The use according to claim 14, wherein the source of long chain polyunsaturated fatty acids comprises docosahexanoic acid and arachidonic acid.

16. Use of a composition having a buffer strength of from about 9 to about 22 and comprising at least one salt having a pKa lower than about 4 and a protein component having a whey to casein ratio of from about 60:40 to about 80:20, in the manufacture of a nutritional composition for modulating gastric acidity in a subject.

17. The use of claim 16, wherein the at least one salt having a pKa lower than about 4 is selected from the group consisting of calcium gluconate, calcium lactate, calcium phosphate and any combination thereof.

18. A method of reducing the buffer strength of an infant formula to a level of about 9 to about 22, the method comprising the step of adding a protein component having a whey:casein ratio of from about 60:40 to about 80:20 and at least one salt having a pKa lower than about 4 to the infant formula.

19. The method of claim 18, wherein the at least one salt is selected from the group consisting of calcium gluconate, calcium lactate, calcium chloride, calcium phosphate and any combination thereof.

20. A nutritional composition having a buffer strength of from about 9 to about 22, the nutritional composition comprising at least one salt having a pKa lower than about 4.

21. The nutritional composition of claim 20, wherein the nutritional composition is an infant formula.

22. The nutritional composition according to claim 20, wherein the nutritional composition comprises a lipid source and a carbohydrate source.

23. The nutritional composition according to claim 20, wherein the nutritional composition comprises a protein source.

24. The nutritional composition according to claim 23, wherein the nutritional composition comprises a protein source having a whey to casein ratio of from about 55:45 to about 85:15.

25. The nutritional composition according to claim 23, wherein the nutritional composition comprises a protein source having a whey to casein ratio of from about 60:40 to about 80:20.

26. The nutritional composition according to claim 23, wherein the nutritional composition comprises a protein source having a whey to casein ratio selected from the group consisting of about 60:40, about 70:30 and about 80:20.

27. The nutritional composition according to claim 20, wherein the nutritional composition comprises between about 0.2 and about 1.8% (w/w) of the at least one salt having a pKa lower than about 4.

28. The nutritional composition according to claim 20, wherein the at least one salt having a pKa lower than 4 is selected from the group consisting of calcium gluconate, calcium lactate, calcium chloride, calcium phosphate and any combination thereof.

29. The nutritional composition according to claim 20, wherein the nutritional composition further comprises at least one prebiotic.

30. The nutritional composition according to claim 29, wherein the prebiotic composition comprises polydextrose.

31. The nutritional composition according to claim 30, wherein the prebiotic composition further comprises galactooligosaccharide.

32. The nutritional composition according to claim 31, wherein the ratio of galactooligosaccharide to polydextrose is from about 9:1 to about 1:9.

33. The nutritional composition according to claim 20, wherein the nutritional composition further comprises about 5 mg/100 kcal to about 100 mg/100 kcal of at least one source of long chain polyunsaturated fatty acids.

34. The nutritional composition according to claim 33, wherein the source of long chain polyunsaturated fatty acids comprises docosahexanoic acid and arachidonic acid.

35. The nutritional composition of any one of claims 1 to 34, wherein the nutritional composition is capable of supporting resistance to growth of bacteria in the gastrointestinal tract of a subject, wherein the bacteria is selected from the group consisting of Enteropathogenic *E. coli* (EPEC), Enteroaggregative *E. coli* (EAEC), *Cronobacter sakazakii*, *Salmonella enterica*, and combinations thereof.

36. The nutritional composition of any one of claims 1 to 34, wherein the nutritional composition is capable of modulating gastric acidity in a subject.

CLAIMS

What is claimed is:

1. Use of a composition having a buffer strength of from 9 to 22 and comprising:
at least one phosphate, carbonate, acetate or lactate salt having a pKa lower than 4, and
from 0.1% to 5% w/w pectin
in the manufacture of a nutritional composition for inhibiting growth of bacteria in the gastrointestinal tract of a subject, wherein the bacteria are selected from the group consisting of Enteropathogenic *E. coli* (EPEC), Enteroaggregative *E. coli* (EAEC), *Cronobacter sakazakii*, *Salmonella enterica*, and combinations thereof.

2. The use according to claim 1, wherein the nutritional composition is an infant formula.

3. The use according to claim 1, wherein the nutritional composition comprises a lipid source.

4. The use according to claim 1, wherein the nutritional composition comprises a protein source.

5. The use according to claim 4, wherein the nutritional composition comprises a protein source having a whey to casein ratio of from 55:45 to 85:15.

6. The use according to claim 4, wherein the nutritional composition comprises a protein source having a whey to casein ratio of from 60:40 to 80:20.

7. The use according to claim 4, wherein the nutritional composition comprises a protein source having a whey to casein ratio selected from the group consisting of 60:40, 70:30 and 80:20.

8. The use according to claim 1, wherein the nutritional composition comprises between 0.2 and 1.8% (w/w) of the at least one salt having a pKa lower than 4.

9. The use according to claim 1, wherein the at least one phosphate salt or the at least one lactate salt having a pKa lower than 4 is selected from the group consisting of calcium phosphate and calcium lactate.

10. The use according to claim 1, wherein the nutritional composition further comprises at least one prebiotic.

11. The use according to claim 10, wherein the prebiotic composition comprises polydextrose.

12. The use according to claim 11, wherein the prebiotic composition further comprises galacto-oligosaccharide.

13. The use according to claim 12, wherein the ratio of galacto-oligosaccharide to polydextrose is from 9:1 to 1:9.

14. The use according to claim 1, wherein the nutritional composition further comprises 5 mg/100 kcal to 100 mg/100 kcal of at least one source of long chain polyunsaturated fatty acids.

15. The use according to claim 14, wherein the source of long chain polyunsaturated fatty acids comprises docosahexanoic acid and arachidonic acid.

16. The use of claim 1, wherein the composition further comprises at least one phytonutrient.

17. The use of claim 1, wherein the pectin comprises a degree of esterification of less than 50%.

18. The use of claim 1, wherein the pectin comprises a degree of esterification of less than 15%.

19. Use of a composition having a buffer strength of from 9 to 22 and comprising at least one carbonate, acetate or lactate salt having a pKa lower than 4, a protein component having a whey to casein ratio of from 60:40 to 80:20, in the manufacture of an infant formula for modulating gastric acidity in an infant,

wherein pectin is present in an amount of from 0.1% to 5% w/w of the infant formula.

20. The use of claim 19, wherein the at least one lactate salt having a pKa lower than 4 comprises calcium lactate.

21. A method of reducing the buffer strength of an infant formula to a level of 9 to 22, the method comprising:

(a) adding a protein component having a whey:casein ratio of from 60:40 to 80:20 to the infant formula;

(b) adding at least one phosphate, carbonate, acetate or lactate salt having a pKa lower than 4 to the infant formula to reduce the buffer strength of the infant formula to a level of 9 to 22; and

(c) determining the buffer strength of the infant formula, wherein the infant formula has a buffer strength of 9 to 22.

22. The method of claim 21, wherein the at least one phosphate salt or the at least one lactate salt having a pKa lower than 4 is selected from the group consisting of calcium phosphate and calcium lactate.

23. An infant formula having a buffer strength of from 9 to 22, the infant formula comprising:

a protein source having a whey to casein ratio of from 60:40 to 80:20;

a lipid source and a carbohydrate source;

a prebiotic composition comprising galacto-oligosaccharide to polydextrose in a ratio from 9:1 to 1:9;

5 mg/100 kcal to 100 mg/100kcal of a source of long chain polyunsaturated fatty acids comprising docosahexanoic acid and arachidonic acid; and

between 0.2 and 1.8% (w/w) of at least one carbonate, acetate or lactate salt having a pKa lower than 4.

24. The infant formula according to claim 23, wherein the infant formula comprises a protein source having a whey to casein ratio selected from the group consisting of 60:40, 70:30 and 80:20.

25. The use of claim 19 or claim 20, or the method of claim 21 or claim 22, or the infant formula of claim 23 or claim 24, wherein the composition or the infant formula is capable of inhibiting growth of bacteria in the gastrointestinal tract of a subject, wherein the bacteria is selected from the group consisting of Enteropathogenic *E. coli* (EPEC), Enteroaggregative *E. coli* (EAEC), *Cronobacter sakazakii*, *Salmonella enterica*, and combinations thereof.

26. The use of any one of claims 1-20, or the method of claim 21 or claim 22, or the infant formula of claim 23 or claim 24, wherein the nutritional composition is capable of modulating gastric acidity in a subject.