

CLAIMS

1. A nutritional composition comprising:

a fucosylated human milk oligosaccharide and/or a sialylated human milk oligosaccharide;

a non-digestible, fermentable polysaccharide; and

Bifidobacterium;

wherein the nutritional composition is free of short-chain fructooligosaccharide having at least about 50% of molecules with a degree of polymerization of less than about 5.

2. A method of treating a subject at risk of developing a *Clostridium difficile* infection or a subject having a *Clostridium difficile* infection, the method comprising:

administering to the subject a nutritional composition comprising:

a fucosylated human milk oligosaccharide and/or a sialylated human milk oligosaccharide;

a non-digestible, fermentable polysaccharide; and

Bifidobacterium;

wherein the nutritional composition is free of short-chain fructooligosaccharide having at least about 50% of molecules with a degree of polymerization of less than about 5.

3. The nutritional composition of claim 1 or the method of claim 2, wherein the nutritional composition comprises a powdered nutritional composition comprising, by weight of the nutritional composition:

the fucosylated human milk oligosaccharide in a range from about 0.01 wt% to about 10 wt% and/or the sialylated human milk oligosaccharide in a range from about 0.01 wt% to about 10 wt%;

the non-digestible, fermentable polysaccharide in a range from about 0.1 wt% to about 25 wt%; and

the *Bifidobacterium* in a range from about 10 cfu/g to about 10⁹ cfu/g.

4. The nutritional composition of claim 1 or the method of claim 2, wherein the nutritional composition comprises a liquid nutritional composition comprising:

the fucosylated human milk oligosaccharide in a range from about 0.01 wt% to about 2 wt% and/or the sialylated human milk oligosaccharide in a range from about 0.01 wt% to about 2 wt%;

the non-digestible, fermentable polysaccharide in a range from about 0.1 wt% to about 5 wt%; and

the *Bifidobacterium* in a range from about 10 cfu/ml to about 10⁹ cfu/ml.

5. The nutritional composition of claim 1, wherein the nutritional composition comprises a supplement comprising:

the fucosylated human milk oligosaccharide and/or the sialylated human milk oligosaccharide in an amount of up to about 50 wt% of the supplement;

at least 10 wt% of the non-digestible, fermentable polysaccharide, based on the weight of the supplement; and

from about 5 x 10² to about 5 x 10⁸ cfu/g of the *Bifidobacterium*.

6. The nutritional composition or method of any one of the preceding claims, wherein the nutritional composition comprises the fucosylated human milk oligosaccharide and the sialylated human milk oligosaccharide.

7. The nutritional composition or method of any one of the preceding claims, wherein the fucosylated human milk oligosaccharide is 2'-fucosyllactose, and the sialylated human milk oligosaccharide is 6'-sialyllactose.
8. The nutritional composition or method of any one of the preceding claims, wherein the non-digestible, fermentable polysaccharide comprises gum arabic, corn fiber, or a combination of the gum arabic and the corn fiber.
9. The nutritional composition or method of any one of the preceding claims, wherein the *Bifidobacterium* comprises *Bifidobacterium animalis*, *Bifidobacterium breve*, *Bifidobacterium longum*, *Bifidobacterium infantis*, and/or *Bifidobacterium bifidum*.
10. The nutritional composition or method of any one of the preceding claims, wherein the nutritional composition further comprises *Lactobacillus* (*L.*) *ramnosus* GG, *L. ramnosus* HN001, *L. acidophilus* LA-5, *L. acidophilus* NCFM, *L. fermentum* CECT5716, *L. reuteri* ATCC55730, *L. reuteri* ATCC PTA-6475, *L. reuteri* DSM 17938, *Streptococcus thermophilus* Th4, *Akkermansia*, *Bacteroides*, *Enterococcus*, *Enterococcus*, *Eubacterium*, *Fecalibacterium*, *Roseburia*, and/or *Saccharomyces*.
11. The nutritional composition or method of any one of the preceding claims, wherein the nutritional composition further comprises an anti-inflammatory compound.
12. The method of claim 2, wherein the subject has a primary infection of *Clostridium difficile*.
13. The method of claim 2, wherein the subject has a recurrent infection of *Clostridium difficile*.

14. The method of claim 2, wherein the subject has tested positive for *Clostridium difficile* toxin A and/or B, and the step of administering the nutritional composition is performed to reduce the risk of diarrhea or colonic inflammation.

15. The method of claim 2, wherein the subject at risk for a *Clostridium difficile* infection was administered an antibiotic and/or a gastric acid supplement from about 1 to about 7 days prior to the administration of the nutritional composition.

16. The method of claim 14, wherein the subject was administered an antibiotic, and the antibiotic was vancomycin or fidaxomicin.

17. The method of claim 2, wherein the subject has inflammatory-bowel disease, chronic kidney-disease, an immunodeficiency disease, a malignant lesion, or has had a solid organ transplant.

18. The method of claim 4, wherein about 237 ml of the liquid nutritional composition is administered to the subject.

19. The method of claim 2, wherein the nutritional composition is administered to the subject daily for a time period of from about 4 weeks to about 7 weeks.

20. The method of claim 2, wherein the step of administering the nutritional composition to the subject comprises administering the nutritional composition via tube-feeding.

21. The method of claim 2, wherein the step of administering the nutritional composition is performed to reduce the risk of the primary infection of *Clostridium difficile*.

22. The method of claim 2, wherein the step of administering the nutritional composition is performed to reduce the risk of the recurrent infection of *Clostridium difficile*.