Claims

1. A *Bacteroides thetaiotaomicron* deposited as Accession Number 42341 at NCIMB, or a derivative thereof.

2. A composition comprising a *Bacteroides thetaiotaomicron* as defined in claim 1.

3. The composition according to claim 2 wherein said *Bacteroides thetaiotaomicron* is encapsulated.

4. A pharmaceutical composition comprising a *Bacteroides thetaiotaomicron* as defined in claim 1, and a pharmaceutically acceptable excipient, carrier or diluent.

5. The pharmaceutical composition according to claim 4 wherein said *Bacteroides thetaiotaomicron* is encapsulated.

6. A nutritional supplement comprising a *Bacteroides thetaiotaomicron* as defined in claim 1, and a nutritional acceptable excipient, carrier or diluent;

7. The nutritional supplement composition according to claim 6 wherein said *Bacteroides thetaiotaomicron* is encapsulated.

8. A feedstuff, food product, dietary supplement, or food additive comprising a *Bacteroides thetaiotaomicron* as defined in claim 1.

9. The feedstuff, food product, dietary supplement, or food additive according to claim 8 wherein said feedstuff, food product, dietary supplement, or food additive is encapsulated.

10. A *Bacteroides thetaiotaomicron* as defined in claim 1, a composition as defined in claim 2 or 3, a pharmaceutical composition as defined in claim 4 or 5, a nutritional supplement as defined in claim 6 or 7 or a feedstuff, a food product, a dietary supplement, or a food additive as defined in claim 8 or 9, for use in modulating the inflammation of a tissue or an organ in a subject.

11. The *Bacteroides thetaiotaomicron*, the composition, the pharmaceutical composition, the nutritional supplement, the feedstuff, the food product, the dietary supplement, or the food additive for use according to claim 10 wherein said *Bacteroides thetaiotaomicron,* composition, pharmaceutical composition, nutritional supplement, feedstuff, food product, dietary supplement, or food additive reduces the inflammation of the tissue or the organ.

12. The *Bacteroides thetaiotaomicron*, the composition, the pharmaceutical composition, the nutritional supplement, the feedstuff, the food product, the dietary supplement, or the food additive for use according to claim 10 or 11 wherein said *Bacteroides thetaiotaomicron* reduces the inflammation by epithelial cells of the tissue or the organ.

13. The *Bacteroides thetaiotaomicron*, the composition, the pharmaceutical composition, the nutritional supplement, the feedstuff, the food product, the dietary supplement, or the food additive for use according to claim 12 wherein said epithelial cells are epithelial cells of the alimentary canal.

14. A *Bacteroides thetaiotaomicron* as defined in claim 1, a composition as defined in claim 2 or 3, a pharmaceutical composition as defined in claim 4 or 5, a nutritional supplement as defined in claim 6 or 7 or a feedstuff, a food product, a dietary supplement, or a food additive as defined in claim 8 or 9, for use in the treatment and/or prevention of a disorder in a subject; wherein said disorder is an inflammatory disorder and/or an autoimmune disorder and/or an allergic disorder.

15. The *Bacteroides thetaiotaomicron*, the composition, the pharmaceutical composition, the nutritional supplement, the feedstuff, the food product, the dietary supplement, or the food additive for use according to claim 14 wherein said disorder affects the alimentary canal, a section of the alimentary canal, and/or epithelial cells.

16. The *Bacteroides thetaiotaomicron,* the composition, the pharmaceutical composition, the nutritional supplement, the feedstuff, the food product, the dietary supplement, or the food additive for use according to claim 14 or 15 wherein said disorder is selected from the group consisting of inflammatory bowel disorder (IBD), colitis, rheumatoid arthritis, psoriasis, multiple sclerosis, type I diabetes, coeliac disease, atopic dermatitis, rhinitis, irritable bowel syndrome (IBS), ulcerative colitis, pouchitis, Crohn's disease, functional dyspepsia, atopic diseases, necrotising enterocolitis, non alcoholic fatty liver disease, gastrointestinal infection and combinations thereof.

17. The *Bacteroides thetaiotaomicron,* the composition, the pharmaceutical composition, the nutritional supplement, the feedstuff, the food product, the dietary supplement, or the food additive for use according to claim 14 or 15 wherein said disorder is an inflammatory bowel disorder (IBD), Crohn’s disease, coeliac disease or ulcerative colitis.

18. A *Bacteroides thetaiotaomicron* as defined in claim 1, a composition as defined in claim 2 or 3, a pharmaceutical composition as defined in claim 4 or 5, a nutritional supplement as defined in claim 6 or 7 or a feedstuff, a food product, a dietary supplement, or a food additive as defined in claim 8 or 9 for use in reducing disruption to the colon of a subject, preferably said subject has IBD.

19. The *Bacteroides thetaiotaomicron,* the composition, the pharmaceutical composition, the nutritional supplement, the feedstuff, the food product, the dietary supplement, or the food additive for use according to claim 18 wherein said *Bacteroides thetaiotaomicron,* composition, pharmaceutical composition, nutritional supplement, feedstuff, food product, dietary supplement, or food additive reduces or prevents disruption to the integrity of the mucosal epithelium and/or reduces or prevents a reduction in the number of goblet cells in the epithelium and/or reduces or prevents the infiltration of immune cells into the lamina propria.

20. A *Bacteroides thetaiotaomicron* as defined in claim 1, a composition as defined in claim 2 or 3, a pharmaceutical composition as defined in claim 4 or 5, a nutritional supplement as defined in claim 6 or 7 or a feedstuff, a food product, a dietary supplement, or a food additive as defined in claim 8 or 9 for use in reducing the expression of one or more pro-inflammatory genes in a cell or cells of a subject.

21. The *Bacteroides thetaiotaomicron,* the composition, the pharmaceutical composition, the nutritional supplement, the feedstuff, the food product, the dietary supplement, or the food additive for use according to claim 20 wherein said pro-inflammatory genes is selected from the group consisting of IL1-β, IL6, IL8, IL10 and combinations thereof.

22. The *Bacteroides thetaiotaomicron,* the composition, the pharmaceutical composition, the nutritional supplement, the feedstuff, the food product, the dietary supplement, or the food additive for use according to claim 20 or 21 wherein said cell is an alimentary canal cell (such as a cell of the ascending colon), or an epithelial cells (such as an intestinal epithelial cell).

23. A *Bacteroides thetaiotaomicron* as defined in claim 1, a composition as defined in claim 2 or 3, a pharmaceutical composition as defined in claim 4 or 5, a nutritional supplement as defined in claim 6 or 7 or a feedstuff, a food product, a dietary supplement, or a food additive as defined in claim 8 or 9 for use in

increasing the percentage of regulatory T cells (Tregs) in the alimentary canal or a section of the alimentary canal.

24. The *Bacteroides thetaiotaomicron,* the composition, the pharmaceutical composition, the nutritional supplement, the feedstuff, the food product, the dietary supplement, or the food additive for use according to claim 23 wherein said section of the alimentary canal is the small intestine lamina propria.

25. A process for producing a pharmaceutical composition according to claim 4 or 5, said process comprising admixing said *Bacteroides thetaiotaomicron* with a pharmaceutically acceptable excipient, carrier or diluent, wherein said *Bacteroides thetaiotaomicron* is optionally encapsulated in said process.

26. A process for producing a nutritional supplement according to claim 6 or 7, said process comprising admixing said *Bacteroides thetaiotaomicron* with a nutritionally acceptable excipient, carrier or diluent, wherein said *Bacteroides thetaiotaomicron* is optionally encapsulated in said process.

27. A process for producing a feedstuff, food product, dietary supplement, or food additive according to claim 8 or 9, said process comprising admixing said *Bacteroides thetaiotaomicron* with a feedstuff, food product, dietary supplement, food additive or ingredient thereof; optionally said *Bacteroides thetaiotaomicron* is encapsulated in said process.

28. A method for modulating the inflammation of a tissue or an organ in a subject wherein said method comprises administering to the subject a *Bacteroides thetaiotaomicron* as defined in claim 1, a composition as defined in claim 2 or 3, a pharmaceutical composition as defined in claim 4 or 5, a nutritional supplement as defined in claim 6 or 7 or a feedstuff, a food product, a dietary supplement, or a food additive as defined in claim 8 or 9.

29. A method for treating and/or preventing of an inflammatory disorder and/or an autoimmune disorder in a subject wherein said method comprises administering to the subject a *Bacteroides thetaiotaomicron* as defined in claim 1, a composition as defined in claim 2 or 3, a pharmaceutical composition as defined in claim 4 or 5, a nutritional supplement as defined in claim 6 or 7 or a feedstuff, a food product, a dietary supplement, or a food additive as defined in claim 8 or 9.

30. A method for reducing disruption to the colon of a subject wherein said method comprises administering to the subject a *Bacteroides thetaiotaomicron* as defined in claim 1, a composition as defined in claim 2 or 3, a pharmaceutical

composition as defined in claim 4 or 5, a nutritional supplement as defined in claim 6 or 7 or a feedstuff, a food product, a dietary supplement, or a food additive as defined in claim 8 or 9, preferably wherein the subject has IBD.

31. A method for reducing the expression of one or more pro-inflammatory genes in a cell or cells of a subject wherein said method comprises administering to the subject a *Bacteroides thetaiotaomicron* as defined in claim 1, a composition as defined in claim 2 or 3, a pharmaceutical composition as defined in claim 4 or 5, a nutritional supplement as defined in claim 6 or 7 or a feedstuff, a food product, a dietary supplement, or a food additive as defined in claim 8 or 9.

32. A method for increasing the percentage of Regulatory T cells (Tregs) in the alimentary canal or a section of the alimentary canal wherein said method comprises administering to the subject a *Bacteroides thetaiotaomicron* as defined in claim 1, a composition as defined in claim 2 or 3, a pharmaceutical composition as defined in claim 4 or 5, a nutritional supplement as defined in claim 6 or 7 or a feedstuff, a food product, a dietary supplement, or a food additive as defined in claim 8 or 9.

33. Use of a *Bacteroides thetaiotaomicron* as defined in claim 1, a composition as defined in claim 2 or 3, a pharmaceutical composition as defined in claim 4 or 5, a nutritional supplement as defined in claim 6 or 7 or a feedstuff, a food product, a dietary supplement, or a food additive as defined in claim 8 or 9, for the manufacture of a medicament for modulating the inflammation of a tissue or an organ in a subject.

34. Use of a *Bacteroides thetaiotaomicron* as defined in claim 1, a composition as defined in claim 2 or 3, a pharmaceutical composition as defined in claim 4 or 5, a nutritional supplement as defined in claim 6 or 7 or a feedstuff, a food product, a dietary supplement, or a food additive as defined in claim 8 or 9, for the manufacture of a medicament for the treatment and/or prevention of an inflammatory disorder and/or allergic disorder and/or an autoimmune disorder in a subject.

35. Use of a *Bacteroides thetaiotaomicron* as defined in claim 1, a composition as defined in claim 2 or 3, a pharmaceutical composition as defined in claim 4 or 5, a nutritional supplement as defined in claim 6 or 7 or a feedstuff, a food product, a dietary supplement, or a food additive as defined in claim 8 or 9

for the manufacture of a medicament for reducing disruption to the colon of a subject, preferably wherein the subject has IBD.

36. Use of a *Bacteroides thetaiotaomicron* as defined in claim 1, a composition as defined in claim 2 or 3, a pharmaceutical composition as defined in claim 4 or 5, a nutritional supplement as defined in claim 6 or 7 or a feedstuff, a food product, a dietary supplement, or a food additive as defined in claim 8 or 9 for the manufacture of a medicament for reducing the expression of one or more pro-inflammatory genes in a cell or cells of a subject.

37. Use of a *Bacteroides thetaiotaomicron* as defined in claim 1, a composition as defined in claim 2 or 3, a pharmaceutical composition as defined in claim 4 or 5, a nutritional supplement as defined in claim 6 or 7 or a feedstuff, a food product, a dietary supplement, or a food additive as defined in claim 8 or 9 for the manufacture of a medicament for increasing the percentage of Regulatory T cells (Tregs) in the alimentary canal or a section of the alimentary canal.