Claims

1. A bacterium of the genus *Christensenella* for use in the prevention and/or treatment of chronic inflammatory diseases and/or inflammatory gastrointestinal diseases and/or cancers in humans or animals.

2. The bacterium of the genus *Christensenella* for its use according to claim 1, in patients or animals exhibiting hyperproduction of interleukin 6 and/or interleukin 8 and/or underproduction of interleukin 10.

3. The bacterium of the genus *Christensenella* for its use according to one of the preceding claims, in the treatment of at least one disease selected from chronic inflammatory bowel diseases, chronic inflammatory diseases of the liver, chronic inflammatory diseases of the pancreas, polyarthritis, atopic dermatitis, neuroinflammatory diseases, chronic obstructive pulmonary disease and inflammatory bowel diseases.

4. The bacterium of the genus Christensenella for its use according to the preceding claim, in the treatment of at least one disease selected from Crohn's disease, ulcerative colitis, pouchitis, ulcerative colitis, celiac disease, autoimmune gastritis, hepatitis, nonalcoholic steatohepatitis, primary sclerosing cholangitis, pancreatitis, rheumatoid arthritis, psoriatic arthritis, psoriasis and eczema.

5. The bacterium of the genus *Christensenella* for its use according to one of claims 1 or 2, for use in the treatment of lymphomas, glioblastomas, myelomas, leukemias, colorectal cancers, breast cancers, cancers prostate, ovarian cancer, uterine cancer, pancreatic cancer, lung cancer, liver cancer, gallbladder cancer and kidney cancer.

6. The bacterium of the genus *Christensenella* for its use according to one of the preceding claims, characterized in that said bacterium is selected from *Christensenella massiliensis, Christensenella timonensis*, *Christensenella intestinihominis,* and *Christensenella minuta*.

7. A composition comprising at least one bacterium of the genus *Christensenella* according to one of the preceding claims in a physiologically acceptable medium and/or a culture supernatant of at least one bacterial strain of the genus *Christensenella* for use in the prevention and/or the treatment of chronic inflammatory diseases and/or inflammatory gastrointestinal diseases and/or cancers.

8. The composition for its use according to claim 7, wherein said bacterium of the

genus *Christensenella* and said culture supernatant may comprise or be derived from the same or different strains or species of *Christensenella.*

9. The composition for its use according to one of claims 7 or 8, said composition being administered to a human having a body mass index of less than 25.

10. The composition for its use according to one of claims 7 or 9, characterized in that said bacterium is selected from *Christensenella massiliensis, Christensenella timonensis* and *Christensenella minuta* and/or mixtures thereof.

11. The composition for its use according to one of claims 7 to 10, characterized in that at least 50% of the bacteria present are living bacteria (by number).

12. The composition for its use according to one of claims 7 to 11, characterized in that at least 90% of the bacteria present are living bacteria (by number).

13. The composition for its use according to one of claims 7 to 12, further comprising:
(i) at least one additional bacterium of the *Verrucomicrobiaceae* family; and/or
(ii) a culture supernatant of said additional bacterium.

14. The composition for its use according to claim 13, wherein the additional bacterial strain is a bacterium of the genus *Akkermansia*, more particularly of the species *Akkermansia muciniphila.*

15. The composition for its use according to one of claims 7 to 14, characterized in that it is provided in liquid form or in solid form.

16. The composition for its use according to claim 15, characterized in that the composition in solid form comprises said bacteria in lyophilized form.

17. The composition for its use according to one of claims 7 to 16, wherein the composition is administered orally, rectally, inhaled or topically.

18. The composition for its use according to one of claims 7 to 17, characterized in that it is in the form of powder, microencapsulated powder, gelatin capsule, capsule, tablet, lozenge, granules, emulsion, suspension, suppository, a beverage, a food, pharmaceutical or nutraceutical product, a food additive, dietary supplement or dairy product.

19. The composition for its use according to one of claims 7 to 18, characterized in that it is in a gastro-resistant form.

20. The composition for its use according to one of claims 7 to 19, characterized in that it comprises at least one probiotic and/or at least one prebiotic.

21. The composition for its use according to one of claims 7 to 20, characterized in that it also comprises:

- at least one probiotic, and/or

- at least one bacterium producing lactic acid and/or at least one other organism promoting the anaerobic conditions necessary for the survival of *Christensenellaceae,* and/or

- at least one bacterium associated with the ecosystem of *Christensenellaceae,* and/or

- at least one bacterium selected from bacteria of the genus *Faecalibacterium, Akkermansia, Eubacterium* and *Oscillospira,* and/or

- at least one prebiotic, and/or

- at least one polyphenol, and/or

- at least one mineral and/or at least one vitamin, and/or at least one nutritional agent, and/or

- at least one active pharmaceutical principle preferably selected from non-steroidal anti-inflammatory drugs, antibodies directed against pro-inflammatory targets (anti-TNFalpha, anti-IL-6, anti-IL-8), antirheumatic drugs, analgesics, antimicrobials , corticosteroids, anabolic steroids, antidiabetics, thyroid agents, antidiarrheals, cough suppressants, antiemetics, antiulcers, laxatives, anticoagulants, erythropoietin, immunoglobulins, immunosuppressants, growth hormones, hormonal drugs, estrogen receptor modulators, alkylating agents, antimetabolites, mitotic inhibitors, radiopharmaceuticals, anti-depressants, antipsychotics, anxiolytics, hypnotics, sympathomimetics, stimulants, donepezil, tacrine, asthma medications, beta agonists, inhaled steroids, leukotriene inhibitors, cromoglycates or cromoglycidic acids, epinephrine, alpha dornase, cytokines, cytokine antagonists, interleukin 10 agonists.

22. A composition comprising, in a physiologically acceptable medium:

(I) (a) at least one bacterial strain selected from the group consisting of *Christensenella timonensis, Christensenella minuta* and/or mixtures thereof; and/or

(b) at least one culture supernatant of at least one bacterial strain selected from the group consisting of *Christensenella timonensis, Christensenella minuta* and/or mixtures thereof;

and

(II) (a) at least one additional bacterial strain of the genus *Akkermansia*, more

particularly of the species *Akkermansia muciniphila*;

and/or

(b) at least one culture supernatant of at least one additional bacterial strain of the genus *Akkermansia*, more particularly of the species *Akkermansia muciniphila.*

CLAIMS

1. Use of a bacterium of the genus *Christensenella* in the preparation of a medicament for the prevention and/or treatment of chronic inflammatory diseases and/or inflammatory gastrointestinal diseases and/or cancers in humans or animals.

2. Use according to Claim 1, in which the patients or animals exhibit hyperproduction of interleukin 6 and/or interleukin 8 and/or underproduction of interleukin 10.

3. Use according to Claim 1 or 2, in which the medicament is for the treatment of at least one disease selected from chronic inflammatory bowel diseases, chronic inflammatory diseases of the liver, chronic inflammatory diseases of the pancreas, polyarthritis, atopic dermatitis, neuroinflammatory diseases, chronic obstructive pulmonary disease and inflammatory bowel diseases.

4. Use according to Claim 1, 2 or 3, in which the medicament is for the treatment of at least one disease selected from Crohn's disease, ulcerative colitis, pouchitis, ulcerative colitis, celiac disease, autoimmune gastritis, hepatitis, nonalcoholic steatohepatitis, primary sclerosing cholangitis, pancreatitis, rheumatoid arthritis, psoriatic arthritis, psoriasis and eczema.

5. Use according to Claim 1 or 2, in which the medicament is for the treatment of lymphomas, glioblastomas, myelomas, leukemias, colorectal cancers, breast cancers, cancers prostate, ovarian cancer, uterine cancer, pancreatic cancer, lung cancer, liver cancer, gallbladder cancer and kidney cancer.

6. Use according to any preceding claim, in which the bacterium is selected from *Christensenella massiliensis, Christensenella timonensis*, *Christensenella intestinihominis,* and *Christensenella minuta*.

7. Use of a composition comprising at least one bacterium of the genus *Christensenella* as set out in any preceding claim in a physiologically acceptable medium and/or a culture supernatant of at least one bacterial strain of the genus *Christensenella* in the preparation of a medicament for the prevention and/or the treatment of chronic inflammatory diseases and/or inflammatory gastrointestinal diseases and/or cancers.

8. Use according to Claim 7, in which the bacterium of the genus *Christensenella* and the culture supernatant may comprise or be derived from the same or different strains or species of *Christensenella.*

9. Use according to Claim 7 or 8, in which the composition is to be administered to a human having a body mass index of less than 25.

10. Use according to Claim 7 or 9, in which the bacterium is selected from *Christensenella massiliensis, Christensenella timonensis* and *Christensenella minuta* and/or mixtures thereof.

11. Use according to any of Claims 7 to 10, in which at least 50% of the bacteria present are living bacteria (by number).

12. Use according to any of Claims 7 to 11, in which at least 90% of the bacteria present are living bacteria (by number).

13. Use according to any of Claims 7 to 12, in which the composition further comprises:

(i) at least one additional bacterium of the *Verrucomicrobiaceae* family; and/or

(ii) a culture supernatant of the additional bacterium.

14. Use according to Claim 13, in which the additional bacterial strain is a bacterium of the genus *Akkermansia*, more particularly of the species *Akkermansia muciniphila.*

15. Use according to any of Claims 7 to 14, in which the composition is provided in liquid form or in solid form.

16. Use according to Claim 15, in which the composition in solid form comprises the bacteria in lyophilized form.

17. Use according to any of Claims 7 to 16, in which the composition is to be administered orally, rectally, inhaled or topically.

18. Use according to any of Claims 7 to 17, in which the composition is in the form of powder, microencapsulated powder, gelatin capsule, capsule, tablet, lozenge, granules, emulsion, suspension, suppository, a beverage, a food, pharmaceutical or nutraceutical product, a food additive, dietary supplement or dairy product.

19. Use according to any of Claims 7 to 18, in which the composition is in a gastro-resistant form.

20. Use according to any of Claims 7 to 19, in which the composition comprises at least one probiotic and/or at least one prebiotic.

21. Use according to any of Claims 7 to 20, in which the composition also comprises:

- at least one probiotic; and/or
- at least one bacterium producing lactic acid and/or at least one other organism promoting the anaerobic conditions necessary for the survival of *Christensenellaceae;* and/or
- at least one bacterium associated with the ecosystem of *Christensenellaceae;* and/or
- at least one bacterium selected from bacteria of the genus *Faecalibacterium, Akkermansia, Eubacterium* and *Oscillospira;* and/or
- at least one prebiotic; and/or
- at least one polyphenol; and/or
- at least one mineral and/or at least one vitamin, and/or at least one nutritional agent; and/or
- at least one active pharmaceutical principle preferably selected from non-steroidal anti-inflammatory drugs, antibodies directed against pro-inflammatory targets (anti-TNFalpha, anti-lL-6, anti-lL-8), antirheumatic drugs, analgesics, antimicrobials , corticosteroids, anabolic steroids, antidiabetics, thyroid agents, antidiarrheals, cough suppressants, antiemetics, antiulcers, laxatives, anticoagulants, erythropoietin, immunoglobulins, immunosuppressants, growth hormones, hormonal drugs, estrogen receptor modulators, alkylating agents, antimetabolites, mitotic inhibitors, radiopharmaceuticals, anti-depressants, antipsychotics, anxiolytics, hypnotics, sympathomimetics, stimulants, donepezil, tacrine, asthma medications, beta agonists, inhaled steroids, leukotriene inhibitors, cromoglycates or cromoglycidic acids, epinephrine, alpha dornase, cytokines, cytokine antagonists and interleukin 10 agonists.

22. A composition comprising, in a physiologically acceptable medium:

(I) (a) at least one bacterial strain selected from the group consisting of C*hristensenella timonensis, Christensenella minuta* and/or mixtures thereof; and/or

(b) at least one culture supernatant of at least one bacterial strain selected from the group consisting of *Christensenella timonensis, Christensenella minuta* and/or mixtures thereof;

and

(II) (a) at least one additional bacterial strain of the genus *Akkermansia*, more particularly of the species *Akkermansia muciniphila*;

and/or

(b) at least one culture supernatant of at least one additional bacterial strain of the genus *Akkermansia*, more particularly of the species *Akkermansia muciniphila.*