

Claims

1. A method for treating an inflammatory bowel disease or at least one symptom thereof, comprising administering to a subject in need thereof an effective amount of:
 - (i) a compound selected from an immunosuppressant and an aminosalicylate; and
 - (ii) one or more *Lactobacillus* species selected from *Lactobacillus buchneri*, *Lactobacillus paracasei*, *Lactobacillus zeae*, *Lactobacillus rari*, *Lactobacillus parafarraginis*, and *Lactobacillus diolivorans*, and/or a culture supernatant or cell free culture filtrate derived from culture media in which said one or more *Lactobacillus* species has been cultured.
2. A method according to claim 1, wherein the inflammatory bowel disease is ulcerative colitis.
3. A method according to claim 1, wherein the inflammatory bowel disease is Crohn's disease.
4. A method according to any one of claims 1 to 3, wherein the symptom of the inflammatory bowel disease is selected from poor stool consistency, faecal blood presence, abdominal pain, diarrhoea, or elevated expression of a pro-inflammatory cytokine.
5. A method according to any one of claims 1 to 4, wherein the immunosuppressant is a calcineurin inhibitor.
6. A method according to claim 5, wherein the calcineurin inhibitor is cyclosporin A.
7. A method according to any one of claims 1 to 4, wherein the immunosuppressant is a TNF inhibitor.
8. A method according to claim 7, wherein the TNF inhibitor is adalimumab.
9. A method according to any one of claims 1 to 4, wherein the immunosuppressant is a JAK inhibitor.
10. A method according to claim 9, wherein the JAK inhibitor is tofacitinib.
11. A method according to any one of claims 1 to 4, wherein the aminosalicylate is 5-aminosalicylic acid.
12. A method according to any one of claims 1 to 11, wherein the *Lactobacillus* species comprises a combination of *Lactobacillus buchneri*, *Lactobacillus paracasei* and *Lactobacillus zeae*.

13. A method according to any one of claims 1 to 4, comprising administering to the subject an effective amount of cyclosporin A and a combination of *Lactobacillus buchneri*, *Lactobacillus paracasei* and *Lactobacillus zeae* or culture supernatant(s) or cell free culture filtrate(s) therefrom.

14. A method according to any one of claims 1 to 4, comprising administering to the subject an effective amount of adalimumab and a combination of *Lactobacillus buchneri*, *Lactobacillus paracasei* and *Lactobacillus zeae* or culture supernatant(s) or cell free culture filtrate(s) therefrom.

15. A method according to any one of claims 1 to 4, comprising administering to the subject an effective amount of tofacitinib and a combination of *Lactobacillus buchneri*, *Lactobacillus paracasei* and *Lactobacillus zeae* or culture supernatant(s) or cell free culture filtrate(s) therefrom.

16. A method according to any one of claims 1 to 4, comprising administering to the subject an effective amount of 5-aminosalicylic acid and a combination of *Lactobacillus buchneri*, *Lactobacillus paracasei* and *Lactobacillus zeae* or culture supernatant(s) or cell free culture filtrate(s) therefrom.

17. A method according to any one of claims 1 to 16, wherein the immunosuppressant or aminosalicylate and the one or more *Lactobacillus* species, culture supernatant(s) or cell free culture filtrate(s) therefrom, are formulated in the same composition for administration.

18. A method according to any one of claims 1 to 17, wherein the immunosuppressant or aminosalicylate and the one or more *Lactobacillus* species, culture supernatant(s) or cell free culture filtrate(s) therefrom, are formulated in different compositions for administration.

19. A method according to claim 18, wherein administration of the immunosuppressant or aminosalicylate and of the one or more *Lactobacillus* species, culture supernatant(s) or cell free culture filtrate(s) therefrom, is sequential or simultaneous.

20. A method for reducing the expression of one or more pro-inflammatory cytokines in a subject suffering from inflammatory bowel disease, comprising administering to the subject an effective amount of:

- (i) a compound selected from an immunosuppressant and an aminosalicylate; and
- (ii) one or more *Lactobacillus* species selected from *Lactobacillus buchneri*, *Lactobacillus paracasei*, *Lactobacillus zeae*, *Lactobacillus rari*, *Lactobacillus parafarraginis*, and

Lactobacillus diolivorans, and/or a culture supernatant or cell free culture filtrate derived from culture media in which said one or more *Lactobacillus* species has been cultured.

21. A method according to claim 20, wherein the one or more pro-inflammatory cytokines is selected from IL-6, KC-GRO, TNF α and IL-1 β .

22. A method according to claim 20 or 21, comprising administering to the subject an effective amount of cyclosporin A and a combination of *Lactobacillus buchneri*, *Lactobacillus paracasei* and *Lactobacillus zeae* or culture supernatant(s) or cell free culture filtrate(s) therefrom.

23. Use of :

- (i) a compound selected from an immunosuppressant and an aminosalicylate; and
 - (ii) one or more *Lactobacillus* species selected from *Lactobacillus buchneri*, *Lactobacillus paracasei*, *Lactobacillus zeae*, *Lactobacillus rari*, *Lactobacillus parafarraginis*, and *Lactobacillus diolivorans*, and/or a culture supernatant or cell free culture filtrate derived from culture media in which said one or more *Lactobacillus* species has been cultured,
- in the manufacture of a medicament for the treatment of an inflammatory bowel disease or at least one symptom thereof.