Claims

1. Use of a strain of *Faecalibacterium prausnitzii* and a strain of *Desulfovibrio piger* wherein said strain of *Desulfovibrio piger* has one or more of the characteristics of: (i) being acetate producing, (ii) being lactate consuming and (iii) having the ability to be an electron acceptor, for preparation of a medicament for the treatment or prevention of a disease associated with reduced butyrate levels or a disease associated with reduced or low numbers of *Faecalibacterium prausnitzii* bacteria.

2. The use of claim 1, wherein said strains are administered together in combination, or sequentially, or separately.

3. The use of claim 1 or claim 2, wherein said *Desulfovibrio piger* strain has all of the characteristics (i) to (iii).

4. The use of any one of claims 1 to 3, wherein said strain of *Faecalibacterium prausnitzii* has (i) the ability to produce butyrate, and optionally one or more of: (ii) the ability to consume acetate, (iii) the ability to produce extracellular electrons and (iv) the ability to produce lactate.

5. The use of *Faecalibacterium prausnitzii* in claim 4, wherein said strain of *Faecalibacterium prausnitzii* has all of the characteristics (i) to (iv) and/or said strain of *Desulfovibrio piger* has all of the characteristics (i) to (iii).

6. The use of any one of claims 1 to 5, wherein said strain of *Faecalibacterium prausnitzii* contains a L-lactate dehydrogenase gene.

7. The use of any one of claims 1 to 6, wherein butyrate production is increased when both strains are present compared to the butyrate production by the *Faecalibacterium prausnitzii* strain alone.

8. The use of claim 7, wherein the effect on the increase in butyrate production is a synergistic effect.

9. The use of any one of claims 1 to 8, wherein the strain of *Faecalibacterium prausnitzii* is DSM 32186 or DSM 17677 and/or the strain of *Desulfovibrio piger* is DSM 32187.

10. The use of any one of claims 1 to 9, wherein said use results in the increased growth and colonization of *Faecalibacterium prausnitzii* bacteria in the gastrointestinal tract.

11. The use of any one of claims 1 to 10, wherein said disease is selected from the group consisting of dysbiosis, type 2 diabetes, gestational diabetes, obesity, gout, pouchitis, chronic kidney disease, psoriasis, frailty, inflammatory bowel disease, irritable bowel syndrome, abdominal pain associated with irritable bowel syndrome, constipation, and diseases associated with constipation.

12. The use of claim 11, wherein said disease is type 2 diabetes or gestational diabetes.

13. Use of a composition comprising a *Faecalibacterium prausnitzii* strain and a strain of *Desulfovibrio piger* for the preparation of a medicament for the treatment or prevention of a disease associated with reduced butyratelevels or a disease associated with reduced butyrate levels or a disease associated with reduced or low numbers of *Faecalibacterium prausnitzii* bacteria,wherein said strain of *Faecalibacterium prausnitzii* has one or more of the characteristics of: (i) being a butyrate producer, (ii) being acetate consuming, (iii) having the ability to produce extracellular electrons, and Iib) having the ability to produce lactate; and wherein said strain of *Desulfovibrio piger* has one or more of the characteristics of: (i) being acetate producing, (ii) being lactate consuming and (iii) having the ability to be an electron acceptor.

14. The composition of claim 13, wherein said strains are as defined in any one of claims 3 to 9.

15. Use of a composition of a strain of *Desulfovibrio piger* DSM 32187 for the preparation of a composition to improve gut health.

16. Use of a composition of a strain of *Desulfovibrio piger DSM 32187* for the preparation of a composition to improve gut health, wherein said strain is capable of increasing butyrate levels and/or increases the number of *Faecalibacterium prausnitzii* bacteria in the gut, wherein said increase in butyrate levels and/or number of *Faecalibacterium prausnitzii* bacteria is the result of a synergistic effect between said *Desulfovibrio piger* DSM 32187 strain and *Faecalibacterium prausnitzii*.