CLAIMS

1. A histamine-producing lactic acid bacterial strain for use in prophylaxis, inhibition, treatment or reducing a risk of relapse of colorectal cancer.

2. The histamine-producing lactic acid bacterial strain for use according to claim 1, wherein said histamine-producing lactic acid bacterial strain is for use in prophylaxis, inhibition, treatment or reducing a risk of relapse of an inflammation-associated colorectal cancer.

3. The histamine-producing lactic acid bacterial strain for use according to claims 1 or 2, wherein said histamine-producing lactic acid bacterial strain is for use in reducing a number of and/or a size of tumors in a patient suffering from colorectal cancer.

4. A histamine-producing lactic acid bacterial strain for use as adjuvant in a cancer treatment selected from a group consisting of radiotherapy and chemotherapy.

5. A histamine-producing lactic acid bacterial strain for use in prophylaxis, inhibition or treatment of a gastrointestinal disturbance associated with a cancer treatment selected from a group consisting of radiotherapy and chemotherapy.

6. The histamine-producing lactic acid bacterial strain for use according to any of the claims 1 to 5, wherein said histamine-producing lactic acid bacterial strain comprises an active histidine operon.

7. The histamine-producing lactic acid bacterial strain for use according to any of the claims 1 to 6, wherein said histamine-producing lactic acid bacterial strain is capable of producing a diacylglycerol kinase (DagK).

8. The histamine-producing lactic acid bacterial strain for use according to any of the claims 1 to 7, wherein said histamine-producing lactic acid bacterial strain is a histamine-producing *Lactobacillus reuteri* strain.

9. The histamine-producing lactic acid bacterial strain for use according to claim 8, wherein said histamine-producing *Lactobacillus reuteri* strain is selected from a group consisting of *Lactobacillus reuteri* ATCC PTA-6475, *Lactobacillus reuteri* ATCC PTA-4659 and *Lactobacillus reuteri* DSM 32273.

10. A method of selecting a lactic acid bacterial strain for use in prophylaxis, inhibition, treatment or reducing a risk of relapse of colorectal cancer, said method comprising:

screening lactic acid bacteria for presence of an active histidine operon; and

selecting a lactic acid bacterial strain for use in prophylaxis, inhibition, treatment or reducing a risk of relapse of colorectal cancer identified as a lactic acid bacterial strain having an active histidine operon and being capable of producing histamine.

11. The method according to claim 10, wherein

screening said lactic acid bacteria comprises screening lactic acid bacteria for presence of said active histidine operon and a capability of producing a diacylglycerol kinase (DagK); and

selecting said lactic acid bacterial strain comprises selecting a lactic acid bacterial strain for use in prophylaxis, inhibition, treatment or reducing a risk of relapse of colorectal cancer identified as a lactic acid bacterial strain having an active histidine operon and being capable of producing histamine and producing DagK.

12. A method of selecting a lactic acid bacterial strain for use in prophylaxis, inhibition, treatment or reducing a risk of relapse of cancer, said method comprising:

screening lactic acid bacteria for presence of an active histidine operon and a capability of producing a DagK; and

selecting a lactic acid bacterial strain for use in prophylaxis, inhibition, treatment or reducing a risk of relapse of a histamine-associated cancer selected from a group consisting of colorectal cancer, melanoma, breast cancer, and pancreas cancer identified as a lactic acid bacterial strain having an active histidine operon and being capable of producing histamine and producing DagK.

13. A method of selecting a lactic acid bacterial strain for use in prophylaxis, inhibition or treatment of an inflammatory condition, said method comprising:

screening lactic acid bacteria for presence of an active histidine operon and a capability of producing a DagK; andselecting a lactic acid bacterial strain for use in prophylaxis, inhibition or treatment of an inflammatory condition identified as a lactic acid bacterial strain having an active histidine operon and being capable of producing histamine and producing DagK.

14. The method according to claim 12, wherein selecting said lactic acid bacterial strain comprises selecting a lactic acid bacterial strain, for use in prophylaxis, inhibition or treatment of an inflammatory condition selected from a group consisting of colitis, inflammatory bowel disease, irritable bowel syndrome, diverticulosis, gingivitis, mastitis and vaginitis, identified as a lactic acid bacterial strain having an active histidine operon and being capable of producing histamine and producing DagK.

15. A *Lactobacillus reuteri* DSM 32273.

16. A *Lactobacillus reuteri* DSM 32273 for use as a medicament.

17. A *Lactobacillus reuteri* DSM 32273 for use in prophylaxis, inhibition, treatment or reducing a risk of relapse of cancer.

18. The *Lactobacillus reuteri* DSM 32273 for use according to claim 15, wherein said cancer is a histamine-associated cancer selected from a group consisting of colorectal cancer, melanoma, breast cancer, and pancreas cancer, preferably colorectal cancer.

19. A *Lactobacillus reuteri* DSM 32273 for use in in prophylaxis, inhibition or treatment of an inflammatory condition.

20. The *Lactobacillus reuteri* DSM 32273 for use according to claim 19, wherein said inflammatory condition is selected from a group consisting of colitis, inflammatory bowel disease, irritable bowel syndrome, diverticulosis, gingivitis, mastitis and vaginitis.