CLAIMS

1. A *Lactobacillus reuteri* strain for use in prophylaxis, inhibition, treatment or reducing a risk of relapse a cancer, wherein said strain has an active histidine operon and is capable of producing histamine and wherein said bacterial strain is also capable of producing and extracellulartly secreting diacylglycerol kinase (DagK) , wherein said strain is not *Lactobacillus reuteri* ATCC PTA 6475 or *Lactobacillus reuteri* ATCC PTA 4659.

2. The *Lactobacillus reuteri* strain for use according to claim 1, wherein said strain is for use in prophylaxis, inhibition, treatment or reducing a risk of relapse of a cancer, wherein the cancer is selected from a group consisting of colorectal cancer, melanoma, breast cancer and pancreas cancer.

3. The *Lactobacillus reuteri* strain for use according to claims 1 or 2, wherein said strain is for use in reducing number of and/or a size of tumors in a patient suffering from a cancer.

4. A *Lactobacillus reuteri* strain for use in combination with a cancer treatment, wherein said treatment is selected from a group consisting of radiotherapy and chemotherapy, wherein said strain is capable of producing a diacylglycerol kinase (DagK).

5. A *Lactobacillus reuteri* 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, wherein said strain is capable of producing a diacylglycerol kinase (DagK).

6. The *Lactobacillus reuteri* strain for use according to any one of the preceeding claims, 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.

7. A method of selecting a lactic acid bacterial strain for use in prophylaxis, inhibition, treatment or reducing a risk of relapse of colorectal cancer, wherein said strain is not *Lactobacillus reuteri* ATCC PTA 6475 or *Lactobacillus reuteri* ATCC PTA 4659, said method comprising:

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

8. A method of selecting a lactic acid bacterial strain for use in prophylaxis, inhibition, treatment or reducing a risk of relapse of cancer, wherein said strain is not *Lactobacillus reuteri* ATCC PTA 6475 or *Lactobacillus reuteri* ATCC PTA 4659, 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 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.

9. A method of selecting a lactic acid bacterial strain for use in prophylaxis, inhibition or treatment of an inflammatory condition, wherein said strain is not *Lactobacillus reuteri* ATCC PTA 6475 or *Lactobacillus reuteri* ATCC PTA 4659, said method comprising:

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

selecting 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.

10. The method according to claim 11, 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.

11. A histamine producing lactic acid bacterial strain capable of producing DagK, wherein said bacterial strain is a *Lactobacillus reuteri* strain having been deposited under DSMZ Accession No. DSM 32273 for use as a medicament.

12. The *Lactobacillus reuteri* DSM 32273 according to claim 11 for use in preventing or treating a cancer.

13. The *Lactobacillus reuteri* DSM 32273 according to claim 11 or 12 for use in prophylaxis, inhibition, treatment or reducing a risk of relapse of cancer.

14. The *Lactobacillus reuteri* DSM 32273 for use according to claim 13, wherein said cancer is a cancer selected from a group consisting of colorectal cancer,
melanoma, breast cancer, and pancreas cancer, preferably colorectal cancer.

15. The *Lactobacillus reuteri* DSM 32273 according to claim 11 for use in prophylaxis, inhibition or treatment of an inflammatory condition.

16. The *Lactobacillus reuteri* DSM 32273 for use according to claim 11, wherein said inflammatory condition is selected from a group consisting of colitis, inflammatory bowel disease, irritable bowel syndrome, diverticulosis, gingivitis, mastitis and vaginitis.