CLAIMS

1. A method of producing therapeutic microvesicles, the method comprising:

culturing bacteria of a probiotic bacterial strain in a culture medium, wherein the probiotic bacterial strain is selected from the group consisting of a *Lactobacillus* strain, a *Bifidobacterium* strain, and a combination thereof; and

exposing the bacteria to an inducing biotic treatment during culturing to induce production of therapeutic microvesicles by the bacteria, wherein the inducing biotic treatment is selected from the group consisting of co-culturing the bacteria with bacteria of another bacterial strain, culturing the bacteria in presence of a conditioned medium from bacteria of another bacterial strain and a combination thereof, wherein the another bacterial strain is a *Bifidobacterium* strain and wherein the another bacterial strain is different from the probiotic bacterial strain.

2. The method according to claim 1, wherein exposing the bacteria comprises exposing the bacteria to the inducing biotic treatment during culturing to induce production of the therapeutic microvesicles and release of the therapeutic microvesicles into the culture medium, and optionally isolating the therapeutic microvesicles from the culture medium.

3. The method according to claim 1 or 2, further comprising exposing the bacteria to an inducing abiotic treatment during culturing to induce production of therapeutic microvesicles by the bacteria, wherein the inducing abiotic treatment is preferably an oxygen treatment, preferably by agitating the bacteria during culturing and/or sparging.

4. The method according to any of the claims 1 to 3, wherein the another bacterial strain is a *Bifidobacterium longum* strain, preferably selected from the group consisting of *B. longum* DSM 32947, *B. longum* DSM 32948 and a combination thereof.

5. The method according to any of the claims 1 to 4, wherein the probiotic bacterial strain is a *Lactobacillus reuteri* strain, preferably selected from the group consisting of *L. reuteri* DSM 17938, *L. reuteri* DSM 32846, and a combination thereof.

6. Therapeutic microvesicles isolated from bacteria of a probiotic bacterial strain for use in treatment of colic, preferably infant colic, or an infant or childhood gastrointestinal disorder or disease, wherein the probiotic bacterial strain is selected from the group consisting of a *Lactobacillus* strain, a *Bifidobacterium* strain, and a combination thereof.

7. The therapeutic microvesicles for use according to claim 6, wherein the probiotic bacterial strain is a *Lactobacillus reuteri* strain, preferably selected from the group consisting of *L. reuteri* DSM 17938, *L. reuteri* DSM 32846, and a combination thereof.

8. A bacterial strain, wherein the bacterial strain is *Bifidobacterium longum* DSM 32947 or *Bifidobacterium longum* DSM 32948, preferably in a dried or lyophilized form.

9. A probiotic composition comprising:

bacteria of a *Lactobacillus* strain, preferably a *L. reuteri* strain, and more preferably a *L. reuteri* strain selected from the group consisting of *L. reuteri* DSM 17938, *L. reuteri* DSM 32846 and a combination thereof; and

bacteria of a *Bifidobacterium longum* strain selected the group consisting of *B. longum* DSM 32947, *B. longum* DSM 32948 and a combination thereof, or a conditioned medium from the *B. longum* strain.

10. A probiotic composition comprising bacteria of a probiotic bacterial strain and therapeutic icrovesicles produced by the probiotic bacterial strain or by another probiotic bacterial strain by exposing bacteria of the probiotic bacterial strain or the another probiotic bacterial strain to an inducing biotic treatment during culturing to induce production of the therapeutic microvesicles by the bacteria, wherein

the probiotic bacterial strain and the another probiotic bacterial strain are selected from the group consisting of a *Lactobacillus* strain, a *Bifidobacterium* strain, and a combination thereof;

the inducing biotic treatment is selected from the group consisting of co-culturing the bacteria with bacteria of another bacterial strain, culturing the bacteria in presence of a conditioned medium from bacteria of another bacterial strain and a combination thereof;

the another bacterial strain is a *Bifidobacterium* strain; and

the another bacterial strain is different from the probiotic bacterial strain and the another probiotic bacterial strain.

11. The probiotic composition according to claim 10, wherein the probiotic composition comprises:

a slow-acting component in the form of the bacteria of the probiotic bacterial strain; and

a fast-acting component in the form of the therapeutic microvesicles produced by bacteria of the probiotic bacterial strain or by the another probiotic bacterial strain by exposing the bacteria to the

inducing biotic treatment during culturing to induce production of the therapeutic microvesicles by the bacteria, wherein

the fast-acting component and the slow-acting component together produce a prolonged therapeutic effect when administered to a subject.

12. Therapeutic microvesicles isolated from bacteria of a probiotic bacterial strain exposed to an inducing biotic treatment during culturing to induce production of the therapeutic microvesicles by the bacteria, wherein

the probiotic bacterial strain is selected from the group consisting of a *Lactobacillus* strain, a *Bifidobacterium* strain, and a combination thereof;

the inducing biotic treatment is selected from the group consisting of co-culturing the bacteria with bacteria of another bacterial strain, culturing the bacteria in presence of a conditioned medium from bacteria of another bacterial strain and a combination thereof; and

the another bacterial strain is a *Bifidobacterium* strain and wherein the another bacterial strain is different from the probiotic bacterial strain.

13. The probiotic composition according to claim 10 or 11 or the therapeutic microvesicles according to claim 12 for use as a medicament.

14. The probiotic composition according to claim 10 or 11 or the therapeutic microvesicles according to claim 12 for use in treatment of colic, preferably infant colic.

15. The probiotic composition according to claim 10 or 11 or the therapeutic microvesicles according to claim 12 for use in treatment of a disease selected from the group consisting of an infant or childhood gastrointestinal disorder or disease, a gastrointestinal pain disorder, a bone loss disease and a periodontal disease.