CLAIMS

1. A spray-dried powder containing a mixture of structurally distinct human milk oligosaccharides (HMOs) and at least one monosaccharide, wherein the mixture of structurally distinct human milk oligosaccharides consists of five, six, seven or more than seven structurally distinct human milk oligosaccharides, the structurally distinct human milk oligosaccharides are selected from the group consisting of 2'-fucosyllactose (2'-FL), 3-fucosyllactose (3-FL), lacto-*N*-tetraose (L*N*T), lacto-*N*-*neo*tetraose (L*N*nT) and lacto-*N*-fucopentaose I (L*N*PFI), 3'-sialyllactose (3'-SL), 6'-sialyllactose (6'-SL), sialyllacto-*N*-tetraose a (LST-a), sialyllacto-*N*-tetraose b (LST-b), sialyllacto-*N*-tetraose c (LST-c) and disialyllacto-N-tetraose (DSLNT); and the at least one monosaccharide is selected from the group consisting of L-fucose and *N*-acetylneuraminic acid.

2. The spray-dried powder according to claim 1, wherein the spray-dried powder contains at least 80 %-wt., at least 85 %-wt., at least 90 %-wt., at least 93 %-wt., at least 95 %-wt. or at least 98 %-wt. human milk oligosaccharides.

3. The spray-dried powder according to claim 1 or 2, wherein at least one HMO of the mixture, preferably all HMOs of the mixture, optionally the at least one monosaccharide, are present in amorphous form.

4. The spray-dried powder according to any one of claims 1 to 3, wherein the at least one monosaccharide, preferably all monosaccharides are present in amorphous form.

5. The spray-dried powder according to any one of claims 1 to 4, wherein the spray-dried powder contains ≤ 15 %-wt. of water, preferably ≤ 10 %-wt. of water, more preferably ≤ 7 %-wt. of water, most preferably ≤ 5 %-wt. of water.

6. A process for the manufacture of a spray-dried powder as defined in any one of claims 1 to 5, the process comprises the steps of:
   a) purifying at least one of the structurally distinct HMOs from a fermentation broth produced by microbial fermentation;

b) providing an aqueous solution containing the at least one HMO of step a) and further containing at least one monosaccharide selected from the group consisting of L-fucose and *N*-acetylneuraminic acid; and
c) subjecting the solution of step b) to spray-drying.

7. The process according to claim 6, wherein the aqueous solution of step b) contains at least five, preferably seven structurally distinct HMOs, said structurally distinct HMOs being preferably selected from the group consisting of 2'-FL, 3-FL, L*N*T, L*N*nT, L*N*FPI, 3'-SL, 6'-SL, LST-a, LST-b, LST-c and DSLNT.

8. The process according to claim 6 or 7, wherein the step of purifying the at least one HMO and/or the at least one monosaccharide from a fermentation broth (step a)) includes one or more of the steps of
   i) removing the microbial cells from the fermentation broth to obtain a process stream;
   ii) subjecting the process stream to at least one ultrafiltration;
   iii) treating the process stream at least one time with a cation exchange resin and/or at least one time with an anion exchange resin;
   iv) subjecting the process stream to at least one nanofiltration and/or diafiltration;
   v) subjecting the process stream to at least one electrodialysis;
   vi) treating the process stream at least one time with activated charcoal; and/or
   vii) subjecting the process stream at least one time to a crystallization and/or precipitation step.

9. The process according to any one of claims 6 to 8, wherein the aqueous solution contains the at least one HMO, the mixture of structurally distinct HMOs, and/or the at least one monosaccharide, in an amount totaling a saccharide amount of at least 20 % (w/v), 30 % (w/v), 35 % (w/v), and up to 45 % (w/v), 50 % (w/v), 60 % (w/v).

10. The process according to any one of claims 6 to 9, wherein the aqueous solution containing the at least one HMO and the at least one monosaccharide is spray-dried at a nozzle temperature of at least 110 °C, preferably at least 120 °C, more preferably at least 125 °C, and less than 150 °C, preferably less than 140 °C and more preferably less than 135 °C.

11. The process according to any one of claims 6 to 10, wherein the aqueous solution containing the at least one HMO and the at least one monosaccharide is spray-dried at an outlet temperature of at least 60 °C, preferably at least 65 °C, and less than 80 °C, preferably less than 70 °C.

12. Use of the spray-dried powder according to any one of claims 1 to 5 for the manufacture of a nutritional composition, preferably of an infant formula.

13. A nutritional composition containing the spray-dried powder according to any one of claims 1 to 5.

14. The nutritional composition according to claim 13, wherein the nutritional composition further contains at least one probiotic microorganism.