Claims

1. A synthetic composition comprising a carbohydrate component, a fat component and a protein component, wherein the carbohydrate component comprises lacto-N-fucopentaose III (LNFP III) and sialyllacto-N-tetraose a (LSTa), and the amount of LSTa is less than 15 wt% of the dry weight of the composition; preferably wherein the weight ratio between LNFP III and LSTa is between 1: 100 and 100:1.

2. The synthetic composition of claim 1 wherein the amount of LNFP III is between 0.0001 wt% and 15 wt% of the dry weight of the composition, preferably between 0.001 and 10 wt%, more preferably between 0.01 and 5 wt%, particularly preferably between 0.01 and 1 wt% of the dry weight of the composition.

3. The synthetic composition of any of the preceding claims wherein the amount of LSTa is between 0.0001 wt% and 15 wt% of the dry weight of the composition, preferably between 0.001 and 10 wt%, more preferably between 0.01 and 5 wt%, particularly preferably between 0.01 and 1 wt% of the dry weight of the composition.

4. The synthetic composition of any of the preceding claims wherein the amount of LNFP III and LSTa are each between 0.0001 wt% and 15 wt% of the dry weight of the composition, preferably each between 0.001 and 10 wt%, more preferably each between 0.01 and 5 wt%, particularly preferably each between 0.01 and 1 wt% of the dry weight of the composition.

5. The synthetic composition according to any of the preceding claims, further comprising disialyllacto-N-tetraose (DSLNT), preferably wherein the weight ratio LNFP III : LSTa : DSLNT is between 1: (0.01 – 100) : (0.01 – 100).

6. The synthetic composition according to claim 5 wherein the amount of DSLNT is between 0.0001 wt% and 15 wt% of the dry weight of the composition, preferably between 0.001 and 10 wt%, more preferably between 0.01 and 5 wt%,

particularly preferably between 0.01 and 1 wt% of the dry weight of the composition.

7. The synthetic composition of anyone of claims 5 or 6, wherein the amount of LNFP III, LSTa and DSLNT are each between 0.0001 wt% and 15 wt% of the dry weight of the composition, preferably each between 0.001 and 10 wt%, more preferably each between 0.01 and 5 wt%, particularly preferably each between 0.01 and 1 wt% of the dry weight of the composition.

8. The synthetic composition of anyone of the preceding claims, is a liquid composition wherein the amount of LNFP III, LSTa and optionally of DSLNT are each between 1 and 10,000 mg/L of the composition, preferably each between 10 and 5000 mg/L, more preferably each between 40 and 4000 mg/L of the composition, most preferably each between 100 and 2500 mg/L.

9. The synthetic composition of any of the preceding claims wherein the fat component is a mixture comprising vegetable fat and milk fat, more preferably wherein the milk fat is bovine milk fat.

10. The synthetic composition of any of the preceding claims wherein the composition is an infant formula, preferably, wherein the composition is a formula for children having an age selected from the group consisting of 0-2 months, 0-4 months, 0-6 months, 0-12 months, 2-6 months, 4-6 months, 6-12 months, 12-24 months, 12-36 months and 24-36 months.

11. The composition of anyone of claims 1 to 9 wherein the composition is an adult formula or wherein the composition is a food supplement.

12. The synthetic composition of any of the preceding claims further comprising one or more probiotics and / or one or more prebiotics.

13. The synthetic composition of any of the preceding claims for use as a medicament.

14. Use of the synthetic composition of any of the preceding claims, in the manufacture of an anti-inflammatory agent and/or for use in one or more of:
upregulating FoxP3,
upregulating IL10,
upregulation regulatory T cells (Tregs), and
downregulation immune responses.