

Claims

1. A synthetic composition comprising one or more compounds according to formula 1, or a pharmaceutically acceptable salt, solvate or ester thereof, for use in the modulation of one or more of:

- i. the cholesterol level;
- ii. lipolysis;
- iii. glucose uptake;
- iv. CD36 receptor activity;

wherein the compound of Formula 1 is



Formula 1

wherein

X is α -L-Fucose (α -L-Fuc),

Y is N-acetyl-D-neuraminic acid (Neu5Ac- α -2-)

n, m, p, q indicate the number of the monosaccharide residues present in the compound of formula 1 and n is 0 or 1; m is 0 or 1; p is 0 or 1; q is 0 or 1;

and $n+m+p+q \geq 1$;

preferably, wherein $p=1$ if $q=1$;

more preferably, wherein $n = 1$ and $m \leq 1$;

particularly preferably,

wherein $n=0$ and $m=0$ if $p+q \geq 1$; or if $n+m \geq 1$ then $p+q=0$.

2. The synthetic composition of claim 1 wherein the use is selected from one or more of the group consisting of reduction of the cholesterol level, enhancing lipolysis, increase glucose uptake, and decrease of CD36 receptor levels; preferably wherein the use is a reduction of the cholesterol level and/or decrease CD36 receptor levels.

3. The synthetic composition of any of the preceding claims wherein the use is a modulation of tissue cholesterol levels, preferably a reduction of tissue cholesterol levels.
- 5 4. The synthetic composition of any of the preceding claims wherein the composition comprises two or more compounds according to formula 1.
5. The synthetic composition of any of the preceding claims wherein the compound of formula 1 is selected from the group consisting of
10 lactodifucohexose II (LNDFHII), sialyllacto-N-tetraose a (LSTa) or disialyllacto-N-tetraose (DSLNT), or a combination thereof.
6. The synthetic composition of any of the preceding claims wherein the composition further comprises fat, protein and carbohydrate, preferably
15 wherein the fat is a mixture of vegetable fat and milk fat, more preferably wherein the milk fat is bovine milk fat.
7. The synthetic composition of any of the preceding claims wherein the composition is an infant formula, preferably, wherein the composition is a
20 formula for children having an age selected from the group consisting of 0-6 months, 0-12 months, 6-12 months 12-24 months, 12-36 months and 24-36 months; or wherein the composition is an adult formula.
8. The synthetic composition of any of the preceding claims wherein the composition is a food product selected from the group consisting of
25 confectionary products; nutritionally complete food products; desserts, in particular a pudding, yoghurt, custard, vla, ice-cream, or milk-shake; beverages, in particular a fruit juice or milk; breakfasts, such as porridge, cereals; soups; and sauces.
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9. The synthetic composition of any of the preceding claims wherein the composition is further comprising one or more human milk oligosaccharides

(HMOs) other than a compound according to formula 1; preferably, wherein the composition further comprises LNFP II or LNFP III, more preferably, wherein the composition further comprises LNFP II and LNFP III.

- 5 10. The synthetic composition of any of the preceding claims further comprising one or more probiotics and / or one or more prebiotics.
11. The synthetic composition of any of the preceding claims further comprising a biologically effective amount of lactoferrin, preferably comprising more
10 than 0.01 wt% of dry composition.
12. The synthetic composition of any of the preceding claims characterized in that the composition does not comprise purified adiponectin or a biologically active fragment thereof.
- 15 13. The synthetic composition of any of the preceding claims further comprising soluble CD14.
14. The synthetic composition of any of the preceding claims wherein the
20 amount of compound according to formula 1 is between 0.001 wt% and 15 wt% of total dry weight of the composition, preferably between 0.01 and 10 wt%, more preferably between 0.01 and 5 wt%.
15. The synthetic composition of any of the preceding claims for use in medicine,
25 preferably for use in a human.