DISCLOSURE OF THE INVENTION

[0009] Briefly, the present disclosure is directed, in an embodiment, to a method for stimulating at least one type of innate immune cell in a human. In certain embodiments, the method comprises administering to the human a nutritional composition comprising:

a. up to about 7 g/100 kcal of a fat or lipid source, more preferably about 3 g/100 kcal to about 7 g/100 kcal of a fat or lipid source;

b. up to about 5 g/100 kcal of a protein source, more preferably about 1 g/100 kcal to about 5 g/100 kcal of a protein source; and

c. at least about 10 mg/100 kCal of lactoferrin, more preferably about 70 mg to about 220 mg/100 kCal of lactoferrin, and most preferably about 90 mg to about 190 mg/100 kCal of lactoferrin. Optionally, in certain embodiments, the nutritional compositions may further comprise about 0.1 g/100 kcal to about 1 g/100 kcal of a prebiotic composition comprising polydextrose and/or galactooligosaccharide. More preferably, the nutritional composition comprises about 0.3 g/100 kcal to about 0.7 g/100 kcal of a prebiotic composition which comprises a combination of polydextrose and galactooligosaccharide.

[0010] Preferably, the lactoferrin is non-human lactoferrin and/or human lactoferrin produced by a genetically modified organism. In one particularly preferred embodiment, the lactoferrin used is such that an effective amount of a nutritional composition containing lactoferrin may be administered to stimulate at least one type of innate immune cell in a human, even if, during processing, the nutritional composition has been exposed to pH and temperature fluctuations typical of certain processing conditions like pasteurization.

[0010a] In accordance with one aspect, there is provided an infant formula comprising:

a) a fat or lipid source;

b) a protein source;

c) lactoferrin produced by a non-human source, wherein the lactoferrin has at least 48% homology with the amino acid sequence AVGEQELRKCNQWSGL at the HLf (349-364) fragment, wherein the lactoferrin is present at a level of 70 mg/100 kcal to 220 mg/100 kcal, and

wherein the infant formula is suitable for stimulating at least one type of innate immune cell selected from the group consisting of macrophages, neutrophils, dendritic cells, and combinations thereof.

BEST MODE FOR CARRYING OUT THE INVENTION

[0011] In certain embodiments, the present disclosure provides a method for stimulating at least one type of innate immune cell in a human by administering to the human nutritional compositions that comprise a lipid or fat source, a protein source, and lactoferrin produced by a non-human source.

[0012] As used herein, "lactoferrin from a non-human source" means lactoferrin which is produced by or obtained from a source other than human breast milk. For example, lactoferrin for use in the present disclosure includes human