Claims

1. Nutritional composition comprising carbohydrates, protein and a fat composition, wherein:

(a) the nutritional composition has a total calcium content on dry matter of at least 3.5 g/kg;

(b) the protein comprises casein;

(c) the nutritional composition has a content of protein-bound calcium of 7.5 mmoles or less per 10 grams of casein; and

(d) the ratio NPN to TN is 0.7 or less, with:

- NPN meaning non-protein nitrogen in the nutritional composition in grams per 100 grams of nutritional composition (g/100 g); and
- TN meaning total nitrogen (TN) in the nutritional composition in g/100 g.

2. Nutritional composition according to claim 1, wherein the fat composition comprises at least 20% by weight, preferably at least 45% by weight, based on total weight of the fat composition of triacylglycerols (TAG) originating from a bovine milk fat source.

3. Nutritional composition according to claim 2, wherein the bovine milk fat source is whole milk, cream or anhydrous milk fat.

4. Nutritional composition according to any one of claims 1-3, wherein the fat composition comprises

(a) 0.5-2.2 % by weight, preferably 0.6-2.0% by weight, based on total weight of fatty acid acyl groups in TAG of butanoate groups (C4:0); and

(b) 18.0-35.0% by weight, preferably 19.0 to 32.0% by weight, based on total weight of fatty acid acyl groups in TAG of long chain saturated fatty acid acyl groups having a chain length of 12 or more carbon atoms at the sn-1 and sn-3 position in TAG.

5. Nutritional composition according to any one of claims 1-4 which further comprises at least one human milk oligosaccharide, preferably a fucosylated lactose, more preferably 2'-fucosyllactose.

6. Nutritional composition according to claim 5, wherein the at least one human milk oligosaccharide is present in an amount of 0.05 to 2.0 grams per 100 grams of the nutritional composition on dry matter.

7. Nutritional composition according to any one of claims 1-6 in powder form.

8. Process for the preparation of a nutritional composition according to claim 7 which process comprises the steps of

(a) preparing a mixture comprising a whey protein source, a casein source, a fat source, a carbohydrate source and salts;

(b) spray drying the mixture resulting from step (a) into a powder; and

(c) optionally dry-blending further salts into the powder resulting from step (b) to obtain the nutritional composition,

wherein the salts comprise

(i) a calcium-binding acid or water-soluble salt thereof; and

(ii) at least one calcium salt selected from calcium phosphate and calcium carbonate, and

wherein the calcium-binding acid or water-soluble salt thereof is added in step (a) and the at least one calcium salt is added in step (a) and/or in step (c).

9. Process according to claim 8, wherein the at least one calcium salt is added in step (c).

10. Process according to claim 8 or 9, wherein the calcium-binding acid or water-soluble salt thereof is selected from citric acid, sodium citrate, potassium citrate and any combination of two or more of these, preferably a combination of sodium citrate and potassium citrate.

11. Use of the nutritional composition of any one of claims 1-7 in the manufacture of a medicament for the prevention of gut discomfort and constipation in human subjects, preferably human subjects of 0 to 36 months of age.